Department of Building & Grounds
Architectural Services Division

City of Baton Rouge
Parish of East Baton Rouge

P.O. Box 1471
Baton Rouge, Louisiana 70821
225 389-4694 Voice
225 389-4704 Fax

ADDENDUM #2

September 15, 2025

TO ALL BIDDERS

PROJECT: BATON ROUGE FIRE DEPARTMENT SARS BUILDING
CITY PARISH PROJECT NO. 21-ASC-CP-1606

The following revisions shall be incorporated in and take precedence over any conflicting part of the original contract documents.

1. Bid opening is postponed to 2:00PM, Tuesday, September 30, 2024.

2. See attached Addendum prepared by WTD Architecture, LLC and dated September 12, 2025. (64 pages).

The following revisions shall be incorporated in and take precedence over any conflicting part of the original contract documents.

TOTAL PAGES .....53 (ADDENDUM)
TOTAL PAGES .....11 (DRAWINGS)
TOTAL PAGES .....65 (INCLUDING THIS PAGE)

FAILURE TO INDICATE RECEIPT OF THIS ADDENDUM ON BID FORM MAY BE CAUSE FOR THE BID TO BE REJECTED

Rob Gray, AIA, LEED AP BD+C, Chief Architect
Architectural Services Division
1100 Laurel Street, Rm. 227
Baton Rouge, LA 70802

Addendum #2

TO ALL CONTRACTORS:

This Addendum is hereby made a part of the Contract Documents dated 3-31-2025

Baton Rouge Fire Department
SARS Building
4250 T.B. Herndon Avenue
Baton Rouge, LA 70807

CITY PARISH PROJECT NO: 21-ASC-CP-1606

The following items shall be considered part of the contract documents and shall be included in the same when Construction Contract is executed. Changes made by Addenda shall take precedence over Original Documents. Any changes, which may affect construction or proper installation of materials, equipment or fixtures, not specifically mentioned in this addendum, shall be brought to the attention of Designer before submitting bid. Otherwise, such conditions, if found later to exist, must be worked out in an acceptable manner without additional cost to the Owner. Prime Contractors are hereby advised to call attention of all subcontractors to changes, which may affect their work.

General:

Drawings:

- Sheet C1.0 – Demolition & Phase 1 Erosion Control Plan
  - Replace sheet with attached Sheet C1.0
- Sheet C1.1 – Paving, Grading, & Drainage Sections
  - Remove entire sheet from the Contract Documents
- Sheet C2.0 – Civil Site Plan & Geometric Layout
  - Replace sheet with attached Sheet C2.0
- Sheet C3.0 – Paving & Joint Layout
  - Replace sheet with attached Sheet C3.0
- Sheet C4.0 – Grading Plan
  - Add attached sheet C4.0 to the Contract Documents
- Sheet C4.1 - Paving, Grading, & Drainage Sections
  - Add attached sheet C4.1 to the Contract Documents
- Sheet C5.0 – Storm Drainage & Utility Layout
  - Add attached sheet C5.0 to the Contract Documents
- Sheet C5.1 – Storm Drainage & Utility Details
  - Add attached sheet C5.1 to the Contract Documents
- Sheet AS1.01 - Architectural Site Plan
  - Replace sheet AS1.01 with attached sheet AS1.01
- Sheet A4.01 – Finish Plan
  - Replace sheet A4.01 with attached sheet A4.01
- Sheet A4.02 – Interior Elevations
  - Replace sheet A4.02 with attached sheet A4.02
- Sheet A1.31 – Enlarged Plan
  - Replace sheet A1.31 with attached sheet A1.31

Specifications:

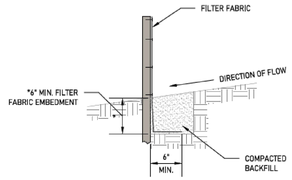
- 03 30 00 – Cast-in-place Concrete
  - Add attached specification section into the Contract Documents
- 04 20 00 – Unit Masonry
  - Add attached specification section into the Contract Documents
- 05 40 00 – Cold Formed Metal Framing
  - Add attached specification section into the Contract Documents
- 09 67 23 – Resinous Flooring
  - Remove section 09 67 23 – Resinous Flooring and replace with attached 09 67 23 – Resinous Flooring specification.
- 09 77 30 – Sanitary Wall Finish System
  - Add attached specification section into the Contract Documents
- 10 51 26 – Solid Plastic (HDPE) Lockers
  - Add attached specification section into the Contract Documents

Prior Approvals:

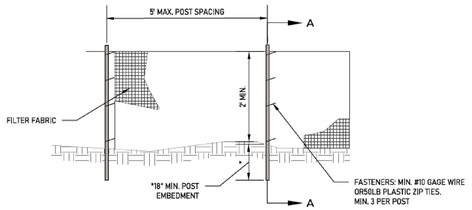
The following manufacturers are considered equal to that specified in name brand only. However, neither the full effects of using them nor the compatibility with the entire project have been evaluated. Any required changes or modifications to the project resulting from substitution(s) will be the responsibility of the contractor.

Item	Manufacturer
Signage	290 Sign Systems
Resinous Flooring	Terrazzo & Marble Supply Companies
Split System	Lennox
Mini-Split System	Fujitsu
Polished Concrete System	Retro Plate

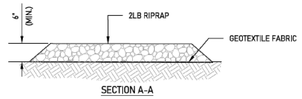
END OF ADDENDUM NO. TWO



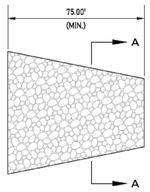
SECTION A-A



1 SILT FENCE
NTS



SECTION A-A



2 CONSTRUCTION ENTRANCE
NTS

DEMOLITION NOTES

1. THE LIMITS OF STRIPPING SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY LIMITS BASED ON THE LAYOUT OF THE PROPOSED SITE IMPROVEMENTS.

2. AREAS WITHIN 5' OF PROPOSED PAVEMENT OR SLABS SHALL BE STRIPPED TO A MINIMUM DEPTH OF 6" OR AS REQUIRED TO ACHIEVE THE PROPOSED SUBGRADE ELEVATIONS IN ORDER TO REMOVE ALL VEGETATION, ORGANIC MATTER, & DELETERIOUS MATERIALS & TO ACHIEVE STABLE SUBGRADE. ACTUAL DEPTH OF REMOVAL SHALL BE VERIFIED IN FIELD WITH THE GEOTECHNICAL ENGINEER.

3. ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE PROJECT SITE & DISPOSED OF LAWFULLY.

4. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS RELATED TO THE DEMOLITION & REMOVAL OF ALL POTENTIALLY HAZARDOUS MATERIALS.

5. THE CONTRACTOR SHALL PROTECT ALL EXISTING FEATURES DESIGNED TO REMAIN THROUGHOUT CONSTRUCTION, & SHALL REPAIR OR REPLACE DAMAGED ITEMS IN KIND AT NO ADDITIONAL COST TO THE OWNER.

6. CONTRACTOR SHALL ENSURE THE CONTINUED FUNCTION OF THE EXISTING SITE STORM DRAINAGE SYSTEM THROUGHOUT CONSTRUCTION, & SHALL SUBMIT PLAN TO MAINTAIN TEMPORARY DRAINAGE TO ENGINEER OF RECORD PRIOR TO REMOVING ANY PORTION OF THE EXISTING STORM DRAINAGE SYSTEM.

7. CONTRACTOR SHALL REVIEW GEOTECHNICAL ENGINEER'S REPORTS TO DETERMINE SUITABILITY OF EXCAVATED MATERIAL FOR FILL BENEATH AREAS OF PAVEMENT. REFERENCE "PROPOSED BATON ROUGE FIRE DEPARTMENT SARS BUILDING - REPORT OF SUBSURFACE INVESTIGATION & GEOTECHNICAL EVALUATION," SOUTHERN EARTH SCIENCES PROJECT NO. B24-030 (DATED APRIL 29, 2024). TESTING AGENCY SHALL VERIFY SUITABILTY OF MATERIAL IN FIELD DURING CONSTRUCTION, & SHALL RECOMMEND MODIFICATIONS AS NECESSARY.

8. UNSTABLE MATERIAL BENEATH EXISTING PAVEMENT SHALL BE REMOVED & REPLACED WITH COMPACTED SELECT FILL.

9. UNDERGROUND UTILITY LOCATIONS SHOWN ARE ESTIMATED AND NOT SURVEYED. ADDITIONAL UTILITIES MAY EXIST. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER OF RECORD OF ANY CONDITIONS THAT DO NOT MATCH THE TOPOGRAPHIC SURVEY, & EXERCISE CAUTION DURING ALL WORK.

10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

11. CONTRACTOR SHALL MAKE EVERY EFFORT TO LOCATE EXISTING UTILITIES WITHIN AREAS OF THE PROPOSED IMPROVEMENTS. COORDINATE WITH OWNERS AND/OR UTILITY COMPANIES AS APPLICABLE.

EROSION CONTROL NOTES

1. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS RELATED TO THE CONTROL OF EROSION & PROTECTION OF RECEIVING STORMWATER SYSTEMS.

2. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING & MAINTAINING PROVISIONS OF THE STORMWATER POLLUTION PREVENTION PLAN.

3. ALL EROSION & SEDIMENTATION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL PERMANENT COVER IS ESTABLISHED.

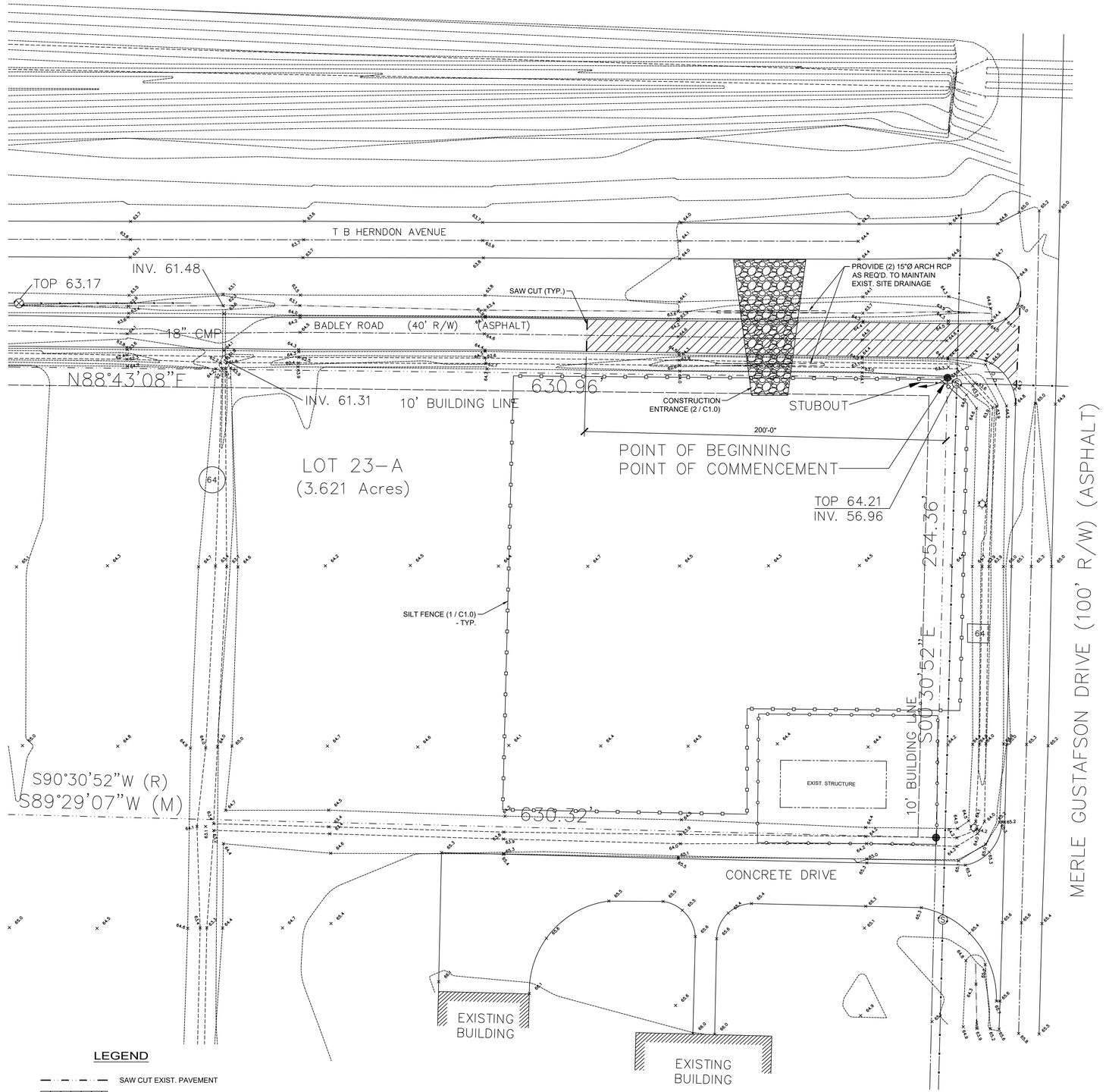
4. STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED PRIOR TO THE COMMENCEMENT OF ANY OTHER CONSTRUCTION OR DEMOLITION ACTIVITIES, & SHALL REMAIN IN PLACE UNTIL SUCH TIME THAT THE PAVED SURFACE IS CONSTRUCTED.

5. SILT FENCE INSTALLATION SHALL PRECEDE ANY CLEARING, DEMOLITION, OR CONSTRUCTION ACTIVITIES.

6. WITH THE EXCEPTION OF AREAS THAT ARE DESIGNATED TO BE FINISHED WITH PAVEMENT, SOD OR PLANTINGS, ALL DISTURBED AREAS SHALL BE SEEDED WITHIN SEVEN (7) DAYS AFTER THE COMPLETION OF CLEARING ACTIVITIES, WHETHER SHOWN ON THIS DRAWING OR NOT. REFER TO LANDSCAPE PLANS FOR SEEDING REQUIREMENTS.

7. ALL EROSION & SEDIMENTATION CONTROL DEVICES SHALL BE INSPECTED WEEKLY (AT A MINIMUM) AND AFTER EACH RAINFALL. DEFICIENT AREAS SHALL BE REPAIRED BY CONTRACTOR IMMEDIATELY.

8. PROVIDE SILT FENCE AROUND SOIL STOCKPILES THAT WILL NOT BE USED WITHIN THREE (3) DAYS FROM PLACEMENT, OR THAT SHED RUNOFF TOWARDS UNPROTECTED DRAINAGE SYSTEMS.



LEGEND

- SAW CUT EXIST. PAVEMENT
- ASPHALT PAVEMENT TO BE REMOVED
- SILT FENCE (1 / C1.0)
- + 64.5 EXIST. ELEVATION

DEMOLITION & PHASE 1 EROSION CONTROL PLAN
SCALE: 1" = 30'-0"

KNOW WHAT'S BELOW
CALL OR CLICK BEFORE YOU DIG.
Louisiana 811
LOUISIANA811.COM

WTD ARCHITECTURE

WTD ARCHITECTURE
11019 Perkins Road, Suite C
Baton Rouge , Louisiana 70810
Office: 225-412-4855
www.wtd-architecture.com

Consultants:

SAWGRASS ENGINEERING, LLC
BATON ROUGE, LA
WWW.SAWGRASS-ENG.COM

Baton Rouge Fire Department SARS Building
City-Parish Project Number 21-ASD-CP-1318
8235 Merle Gustafson Drive
Baton Rouge, LA 70807

Phase: Construction Documents
Date: 03.31.25
Revisions:

1	Addendum 2	09.11.25

STATE OF LOUISIANA
JOSEPH PICOU
License No. 31297
PROFESSIONAL ENGINEER IN
CIVIL ENGINEERING

Professional Seal

Scale: As Shown

Sht Description: DEMOLITION & PHASE 1 EROSION CONTROL PLAN

North

C1.0

GENERAL NOTES

1. INFORMATION DEPICTING THE EXISTING CONDITIONS HEREON WAS TAKEN FROM "MAP SHOWING LIMITED TOPOGRAPHIC SURVEY OF A PORTION OF LOT 23-A & LOT 21, HOWELL COMMUNITY FARMS, LOCATED IN SECTION 94, T-6-S, R-1-E, GREENSBURG LAND DISTRICT, EAST BATON ROUGE PARISH, LOUISIANA FOR THE CITY OF BATON ROUGE ARCHITECTURAL SERVICES DIVISION" PROVIDED BY GWS ENGINEERING, INC. SAWGRASS ENGINEERING, LLC HAS NOT FIELD VERIFIED THE ITEMS IDENTIFIED ON THIS SURVEY.

2. IN ACCORDANCE WITH FEMA FLOOD INSURANCE RATE MAP PANEL 22033C017E, LAST REVISED ON MAY 2, 2008, THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN). NEAREST ADJACENT BASE FLOOD ELEVATION = 60 FEET (NAVD 1988). FLOOD ZONE INFORMATION SHALL BE CONFIRMED WITH THE DEPARTMENT OF DEVELOPMENT.

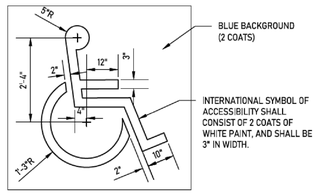
3. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION TO HAVE THEIR UTILITIES LOCATED IN THE FIELD. CONTRACTOR SHALL MAKE REQUEST THROUGH LOUISIANA ONE CALL (811).

SITE PLAN & GEOMETRIC LAYOUT NOTES

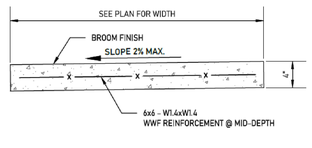
1. WHERE CURVE DATA IS NOT SHOWN, CURVES SHALL HAVE A TOTAL ANGLE OF 90°.

2. WHERE APPLICABLE, DIMENSIONS ARE TAKEN TO THE EDGE OF CONCRETE.

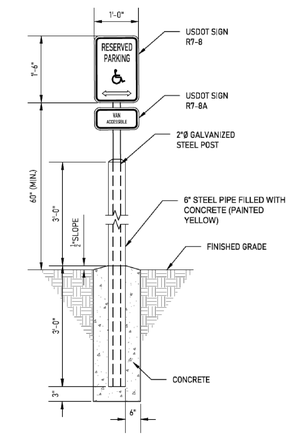
3. ALL PROPOSED SIGNAGE & PAVEMENT STRIPING SHALL CONFORM TO THE CURRENT EDITION OF THE M.U.T.C.D.



1 PAINTED ACCESS SYMBOL
NTS



CONCRETE SIDEWALK NOTES:
1. ½" TOOLED JOINTS REQUIRED AT INTERVALS EQUAL TO WIDTH OF SIDEWALK.
2. ½" EXPANSION JOINTS REQUIRED AT 100' MAX. AND AT JUNCTIONS WITH CURBS, DRIVES, OR OTHER WALKS.
3. SIDEWALK CROSS-SLOPES SHALL NOT EXCEED 2% (1:50).
4. SIDEWALK LONGITUDINAL SLOPES SHALL NOT EXCEED 5% (1:20).



2 HANDICAPPED PARKING SIGN
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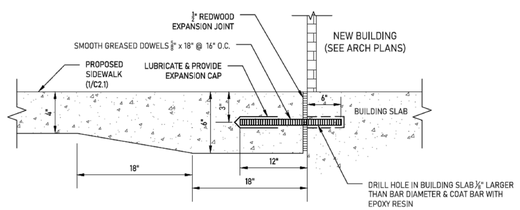
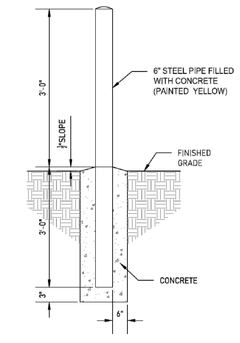
3 CONCRETE SIDEWALK
NTS

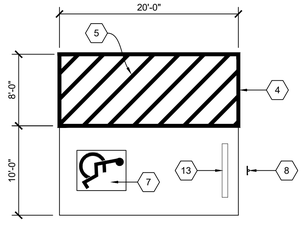


SIDEWALK-SLAB DOWELING AT ENTRANCES NOTES:
1. THIS DETAIL APPLIES TO ALL SIDEWALK PANELS ADJOINING A PROPOSED BUILDING AT A PEDESTRIAN ENTRANCE. IF ANY PART OF A PANEL IS IN FRONT OF AN ENTRANCE, THE ENTIRE PANEL SHALL BE DOWELED AS SHOWN.
2. LENGTH OF DOWELED JOINT AT ALL ENTRANCES SHALL BE 5' (MIN.).

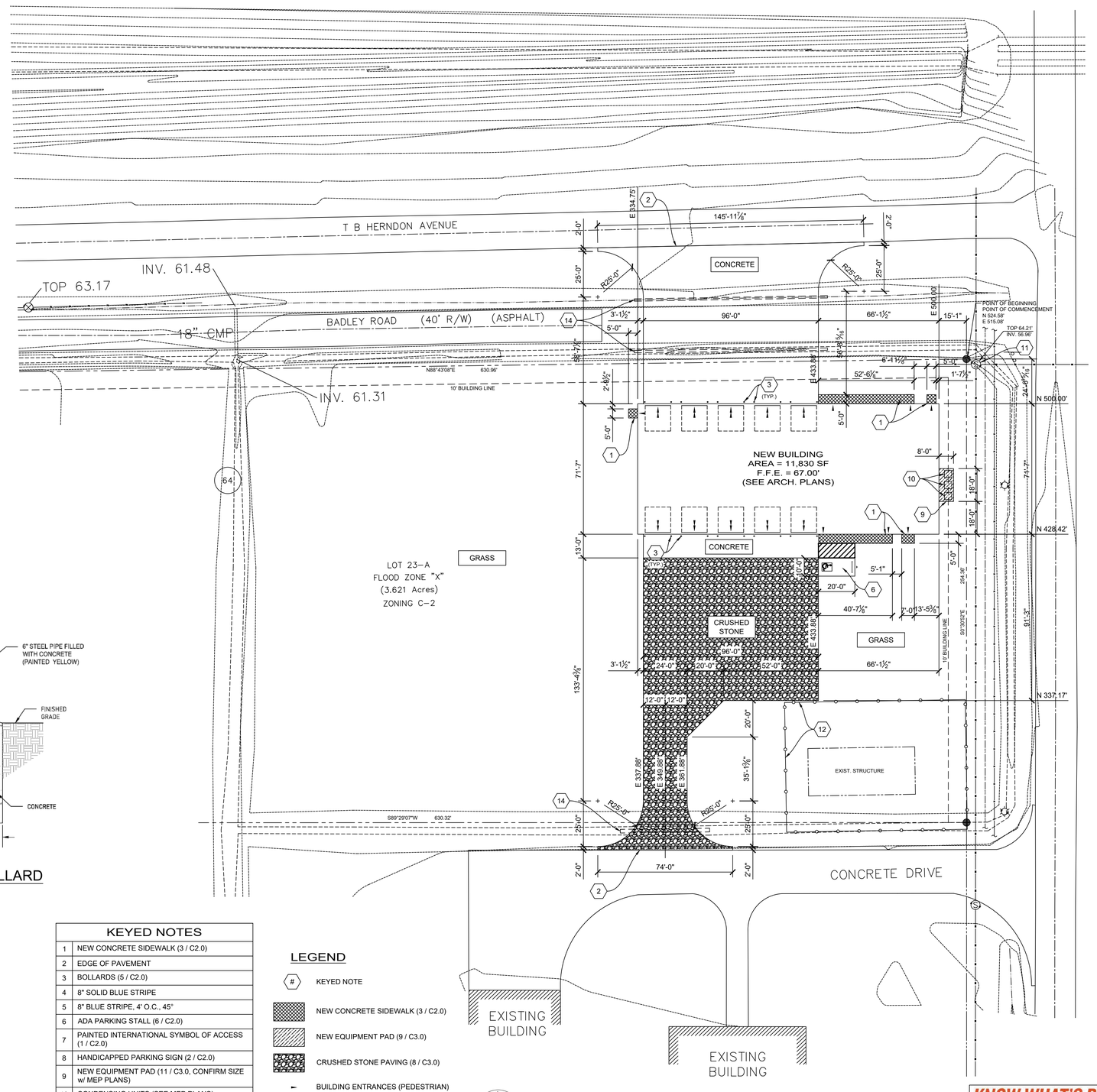
4 SIDEWALK-SLAB DOWELING AT ENTRANCES
NTS



5 BOLLARD
NTS



6 TYPICAL HANDICAP PARKING STALL LAYOUT
NTS



KEYED NOTES	
1	NEW CONCRETE SIDEWALK (3 / C2.0)
2	EDGE OF PAVEMENT
3	BOLLARDS (5 / C2.0)
4	8" SOLID BLUE STRIPE
5	8" BLUE STRIPE, 4' O.C., 45°
6	ADA PARKING STALL (6 / C2.0)
7	PAINTED INTERNATIONAL SYMBOL OF ACCESS (1 / C2.0)
8	HANDICAPPED PARKING SIGN (2 / C2.0)
9	NEW EQUIPMENT PAD (11 / C3.0, CONFIRM SIZE w/ MEP PLANS)
10	CONDENSING UNITS (SEE MEP PLANS)
11	EXISTING SANITARY SEWER MANHOLE
12	EXISTING CHAIN LINK FENCE
13	6' CONCRETE WHEEL STOPS
14	15"Ø ARCH REINFORCED CONCRETE PIPE (RCP)

LEGEND

- (#) KEYED NOTE
- NEW CONCRETE SIDEWALK (3 / C2.0)
- NEW EQUIPMENT PAD (9 / C3.0)
- CRUSHED STONE PAVING (8 / C3.0)
- BUILDING ENTRANCES (PEDESTRIAN)
- BUILDING ENTRANCES (VEHICULAR)
- PROPERTY LINE
- BUILDING LINE
- EXISTING LIGHT POLE

CIVIL SITE PLAN & GEOMETRIC LAYOUT
SCALE: 1" = 30'-0"

WTD ARCHITECTURE
11019 Perkins Road, Suite C
Baton Rouge , Louisiana 70810
Office: 225-412-4855
www.wtd-architecture.com

Consultants:

SAWGRASS ENGINEERING, LLC
BATON ROUGE, LA
WWW.SAWGRASS-ENG.COM

Baton Rouge Fire Department
SARS Building
City-Parish Project Number 21-ASD-CP-1318
8239 Merle Gustafson Drive
Baton Rouge, LA 70807

Phase: Construction Documents
Date: 03.31.25
Revisions:

1	Addendum 2	09.11.25

STATE OF LOUISIANA
JOSEPH PICOU
License No. 31297
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Professional Seal
Scale: As Shown
Sht Description:
CIVIL SITE PLAN & GEOMETRIC LAYOUT

North

C2.0

GENERAL NOTES

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PAVING & JOINT NOTES

1. ALL CONCRETE PAVEMENT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

2. ALL JOINTS SHALL BE OFFSET A MINIMUM OF 2 FT. FROM EDGE OF PAVEMENT IN ORDER TO PROVIDE A PERPENDICULAR INTERSECTION WHERE CURVES OR ACUTE ANGLES ARE ENCOUNTERED.

3. SAWCUTS SHALL BE MADE AS SOON AS PAVEMENT IS STABLE ENOUGH TO SUPPORT SAWING EQUIPMENT.

4. ALL DOWELS & TIE BARS MUST BE SET AT 90° ANGLES WITH RESPECT TO THE VERTICAL PLANE OF THE SLAB AT THE TIME OF CONCRETE INSTALLATION.

5. ISOLATION JOINTS SHALL BE REQUIRED WHERE ALL COLUMNS, FENCE FOOTINGS, OR OTHER STRUCTURES ENCOUNTER CONCRETE PAVEMENT.

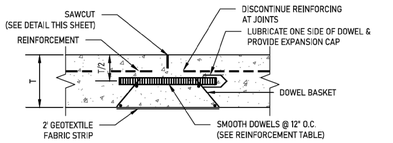
6. WHERE REQUIRED, GEOTEXTILE FABRIC BENEATH PROPOSED JOINTS SHALL BE A MINIMUM OF 2 FT. IN WIDTH, WITH A MINIMUM OF 1 FT. EXTENDING BEYOND EACH JOINT, & SHALL EXTEND THE FULL LENGTH OF THE JOINT.

7. GEOTEXTILE FABRIC SHALL BE CLASS "D" IN ACCORDANCE WITH CURRENT LADOTD SPECIFICATIONS.

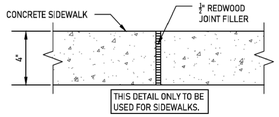
8. ALL PAVEMENT JOINTS SHALL BE EXTENDED THROUGH CURBS, AND SHALL EXTEND THROUGH FULL DEPTH OF CURBS.

9. PAVEMENT BASE SHALL EXTEND 12" MINIMUM BEYOND BACK OF PROPOSED CURB, OR EDGE OF PAVING, IN ALL PAVED AREAS.

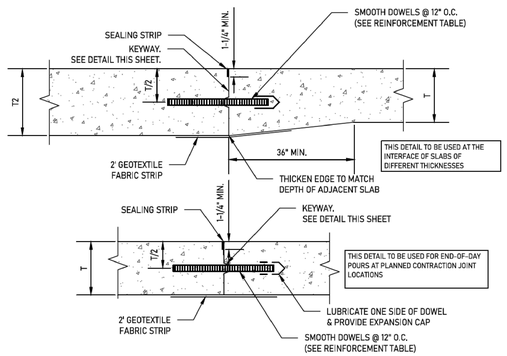
10. STABILITY OF SUBGRADE SHALL BE CONFIRMED IN THE FIELD BY THE GEOTECHNICAL TESTING AGENCY UPON COMPLETION OF SUCCESSFUL PROOF ROLL(S). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.



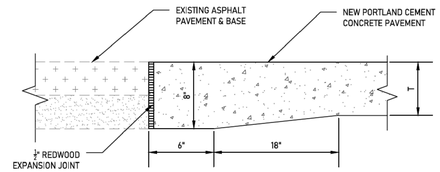
1 CONTRACTION JOINT
NTS



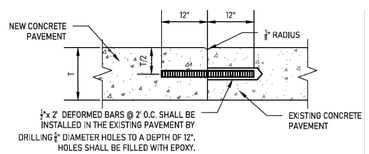
4 EXPANSION JOINT (EXP)
NTS



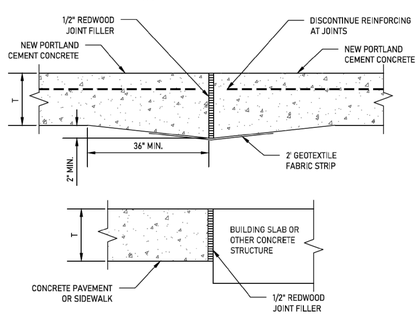
2 CONSTRUCTION JOINT (CJ)
NTS



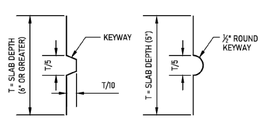
5 THICKENED EDGE (THK)
NTS



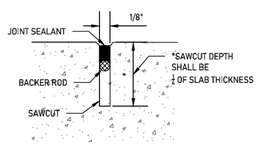
6 LONGITUDINAL BUTT JOINT (LBJ)
NTS



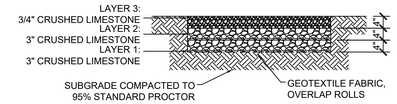
3 ISOLATION JOINT (ISO)
NTS



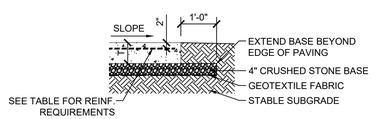
7 KEYWAY DETAIL
NTS



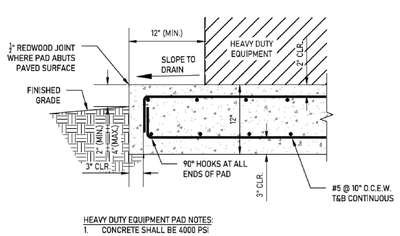
8 SAWCUT DETAIL
NTS



9 CRUSHED STONE PAVING DETAIL
NTS

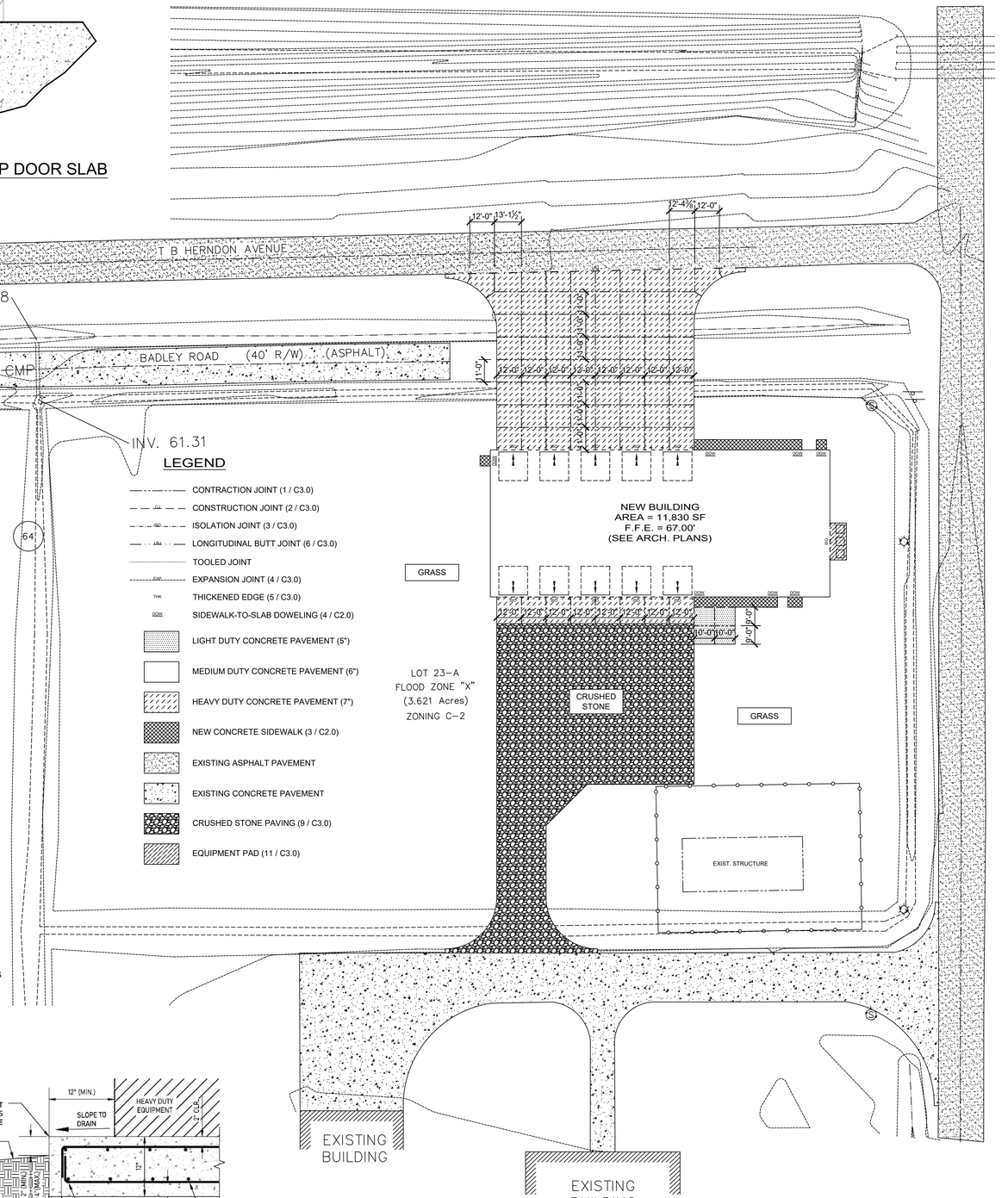


10 TYP. CONCRETE PAVEMENT SECTION
NTS



HEAVY DUTY EQUIPMENT PAD NOTES:
1. CONCRETE SHALL BE 4000 PSI NORMAL WEIGHT.

11 EQUIPMENT PAD
NTS



N

PAVING & JOINT LAYOUT
SCALE: 1" = 30'-0"

REINFORCEMENT TABLE		
T OR T2	DOWEL SIZE	REINFORCEMENT
5"	DO NOT USE	WWF 6x6 - W2.9xW2.9
6"	#6 x 18"	WWF 6x6 - W2.9xW2.9
7"	#7 x 18"	WWF 6x6 - W4xW4
8"	#8 x 18"	#5 @ 12" O.C., E.W.

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Phase: Construction Documents
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Revisions:

1	Addendum 2	09.11.25

STATE OF LOUISIANA
JOSEPH PICOU
License No. 31297
PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

Professional Seal
Scale: As Shown
Sht Description: PAVING & JOINT LAYOUT

North

C3.0

GENERAL NOTES

1. INFORMATION DEPICTING THE EXISTING CONDITIONS HEREON WAS TAKEN FROM "MAP SHOWING LIMITED TOPOGRAPHIC SURVEY OF A PORTION OF LOT 23-A & LOT 21, HOWELL COMMUNITY FARMS, LOCATED IN SECTION 94, T-6-S, R-1-E, GREENSBURG LAND DISTRICT, EAST BATON ROUGE PARISH, LOUISIANA FOR THE CITY OF BATON ROUGE ARCHITECTURAL SERVICES DIVISION" PROVIDED BY GWS ENGINEERING, INC. SAWGRASS ENGINEERING, LLC HAS NOT FIELD VERIFIED THE ITEMS IDENTIFIED ON THIS SURVEY.

2. IN ACCORDANCE WITH FEMA FLOOD INSURANCE RATE MAP PANEL 22033C017E, LAST REVISED ON MAY 2, 2008, THIS PROPERTY IS LOCATED IN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN). NEAREST ADJACENT BASE FLOOD ELEVATION = 60 FEET (NAVD 1988). FLOOD ZONE INFORMATION SHALL BE CONFIRMED WITH THE DEPARTMENT OF DEVELOPMENT.

3. IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION OR CONSTRUCTION TO HAVE THEIR UTILITIES LOCATED IN THE FIELD. CONTRACTOR SHALL MAKE REQUEST THROUGH LOUISIANA ONE CALL (811).

GRADING NOTES

1. UNLESS OTHERWISE SPECIFIED, FINISHED GRADE AT PERIMETER OF PROPOSED PAVEMENT SHALL SLOPE TO EXISTING GRADE AT A MAXIMUM SLOPE OF 4H:1V.

2. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM EXISTING AND PROPOSED BUILDINGS AT ALL TIMES.

3. GRADES SHOWN HEREON REPRESENT THE GRADE OF THE FINISHED SURFACE. CONTRACTOR SHALL ACCOUNT FOR DEPTHS OF GRASS, LANDSCAPING, OR OTHER IMPROVEMENTS WHEN SETTING NEW GRADES.

4. ALL EXISTING ELEVATIONS ANNOTATED WITH "EG" SHALL BE VERIFIED PRIOR TO THE INSTALLATION OF THE ASSOCIATED PROPOSED FEATURE. CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD IMMEDIATELY IF ANY DISCREPANCIES EXIST.

5. EROSION CONTROL BLANKET (ECB) SHALL BE PROVIDED ON ALL FINISHED GREENSPACE SLOPES EXCEEDING 5% (20H:1V) WHERE NO SOD OR OTHER PERMANENT MEANS OF STABILIZATION ARE SPECIFIED.

6. ECB INSTALLATION SHALL TAKE PLACE IMMEDIATELY FOLLOWING THE COMPLETION OF GRADING ACTIVITIES. CONTRACTOR SHALL RE-GRADE ANY AREAS OF EROSION OR INCONSISTENT SLOPES PRIOR TO INSTALLATION.

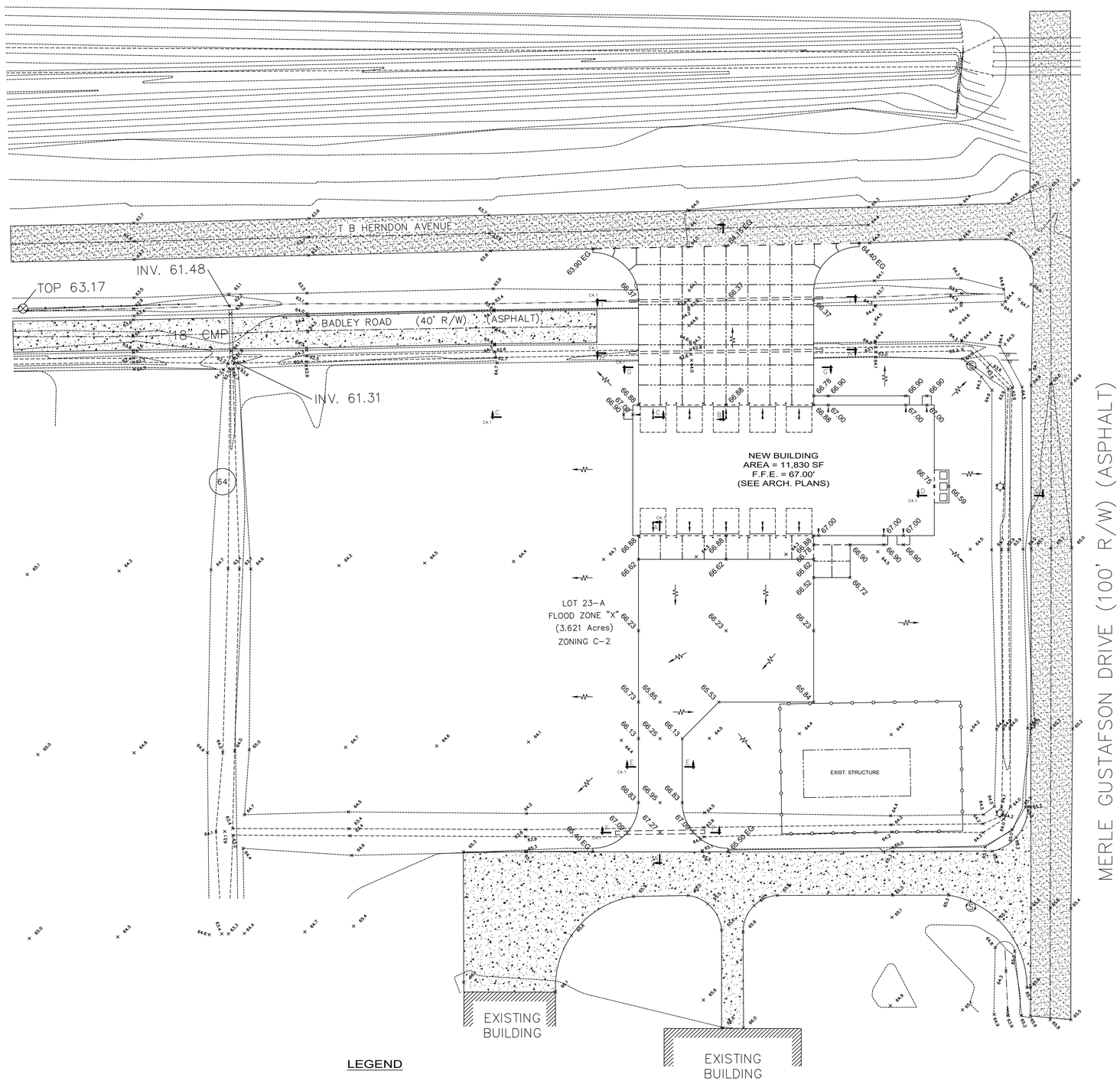
7. FINISHED SLOPES WITHIN ADA PARKING AND ACCESS AREAS SHALL NOT EXCEED 2% IN ANY DIRECTION.

8. CROSS SLOPE ALONG PROJECTED SIDEWALK PATH THROUGH DRIVEWAY SHALL NOT EXCEED 2%.

9. PROVIDE POSITIVE DRAINAGE AROUND ALL EQUIPMENT PADS & FOUNDATIONS. VERIFY EQUIPMENT PAD LAYOUTS WITH MEP PLANS & ADJUST GRADES AS NEEDED.

10. SLOPE ALL INTERIOR LANDSCAPE ISLANDS TO DRAIN OVER ADJACENT CURBS.

11. MAINTAIN F.F.E. WITHIN BAYS. PROVIDE CONTINUOUS 1 1/2" DROP AT PAVEMENT INTERFACE (TYPICAL FOR BOTH SIDES, 12 / C3.0).



LEGEND

× 65.00	PROPOSED FINISHED GRADE
× 64.50 EG	MATCH EXISTING GRADE
× 64.5	EXISTING ELEVATION
	DIRECTION OF OVERLAND FLOW
	RIDGE LINE

GRADING PLAN
SCALE: 1" = 30'-0"

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STATE OF LOUISIANA
JOSEPH PICOU
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PROFESSIONAL ENGINEER
IN
CIVIL ENGINEERING

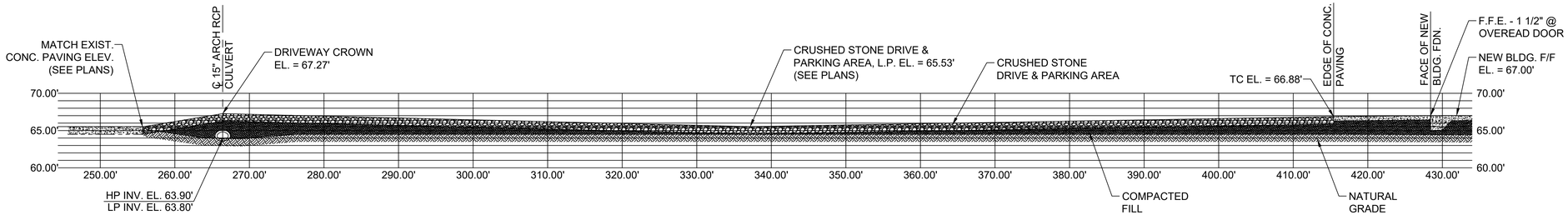
Professional Seal

Scale: As Shown

Sht Description:
GRADING PLAN

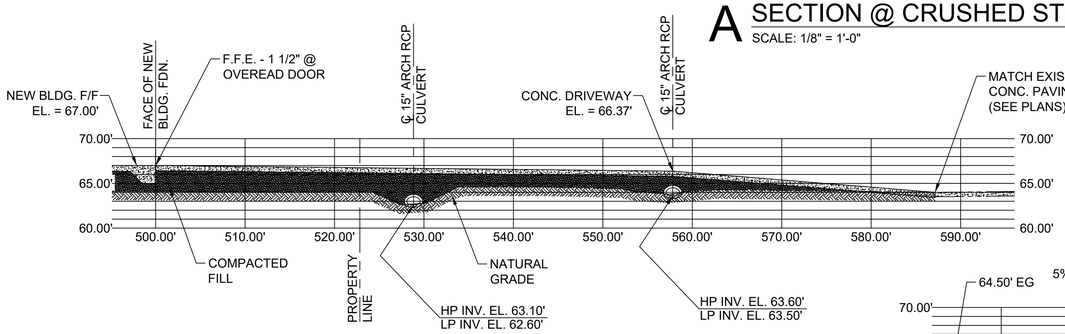
North

C4.0



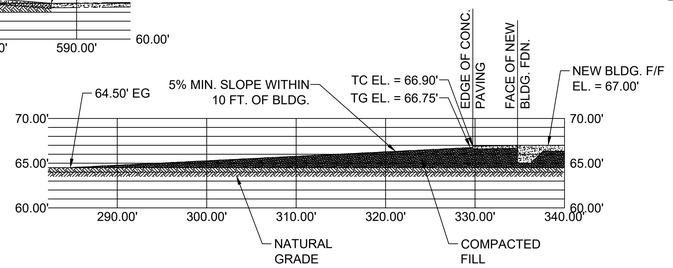
A SECTION @ CRUSHED STONE DRIVEWAY & PARKING AREA (LKG. WEST)

SCALE: 1/8" = 1'-0"



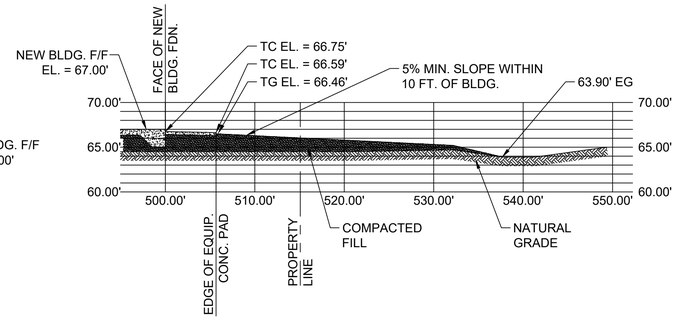
B SECTION @ CONCRETE DRIVEWAY (LKG. WEST)

SCALE: 1/8" = 1'-0"



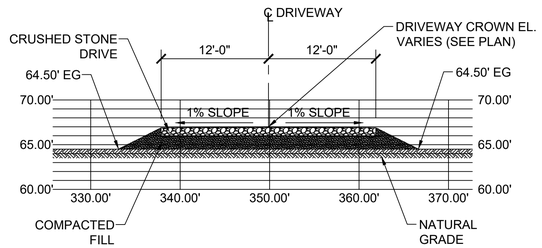
C SECTION @ BLDG. (WEST SIDE, LKG. NORTH)

SCALE: 1/8" = 1'-0"



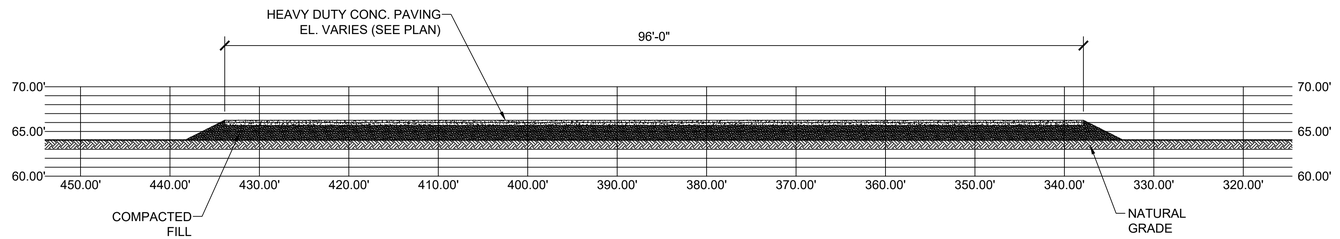
D SECTION @ BLDG. (EAST SIDE, LKG. NORTH)

SCALE: 1/8" = 1'-0"



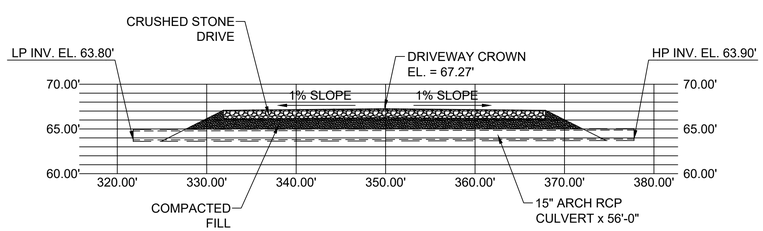
E CRUSHED STONE DRIVEWAY CROSS SECTION (LKG. NORTH)

SCALE: 1/8" = 1'-0"



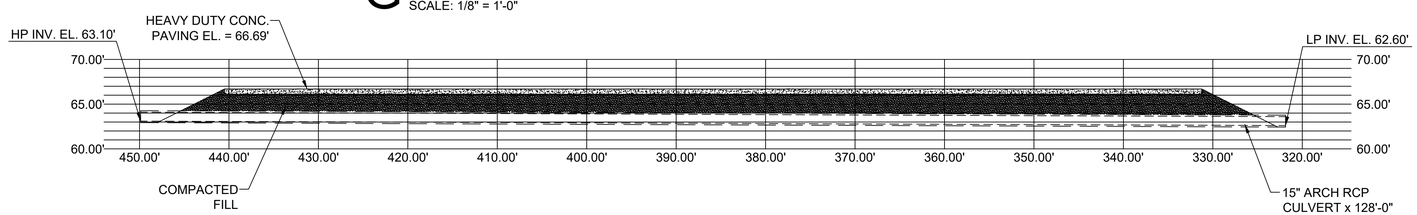
G CONCRETE DRIVEWAY CROSS SECTION (LKG. SOUTH)

SCALE: 1/8" = 1'-0"



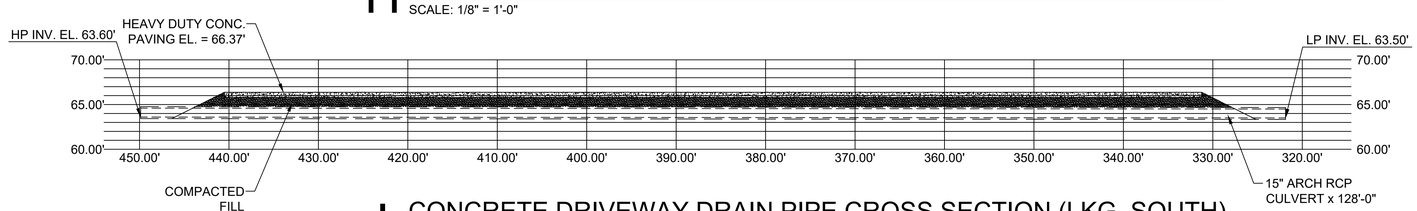
F CRUSHED STONE DRIVEWAY DRAIN PIPE CROSS SECTION (LKG. NORTH)

SCALE: 1/8" = 1'-0"



H CONCRETE DRIVEWAY DRAIN PIPE CROSS SECTION (LKG. SOUTH)

SCALE: 1/8" = 1'-0"



I CONCRETE DRIVEWAY DRAIN PIPE CROSS SECTION (LKG. SOUTH)

SCALE: 1/8" = 1'-0"

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CIVIL ENGINEERING
STATE OF LOUISIANA

Professional Seal

Scale: As Shown

Sht Description:
PAVING, GRADING, & DRAINAGE SECTIONS

North

C4.1

GENERAL NOTES

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STORM DRAINAGE & UTILITY NOTES

1. ALL DRAINAGE PIPES, STRUCTURES, & FITTINGS SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 33 42 00.

2. PROPOSED DRAINAGE SYSTEMS SHALL BE CONSTRUCTED BEGINNING AT THE OUTFALL POINT & PROCEEDING UPSTREAM.

3. ALL GEOTEXTILE FABRIC SHALL BE CLASS "D" UNLESS OTHERWISE SPECIFIED.

4. WHERE "SDP" IS INDICATED, PIPE MATERIAL SHALL BE PLASTIC OR CONCRETE IN ACCORDANCE WITH SPECIFICATION SECTION 33 42 00.

5. CONTRACTOR SHALL CONFIRM THE ELEVATIONS OF ALL PROPOSED DRAINAGE TIE-IN POINTS IN THE FIELD PRIOR TO SUBMITTING SHOP DRAWINGS, & SHALL NOTIFY ENGINEER OF RECORD IMMEDIATELY SHOULD EXISTING ELEVATIONS NOT PERMIT INSTALLATION OF THE PROPOSED DRAINAGE SYSTEM AS SHOWN.

6. CONTRACTOR SHALL ENSURE THE CONTINUED FUNCTION OF THE EXISTING SITE STORM DRAINAGE SYSTEM THROUGHOUT CONSTRUCTION, AND SHALL SUBMIT PLANS TO MAINTAIN TEMPORARY DRAINAGE TO ENGINEER OF RECORD PRIOR TO REMOVING ANY PORTION OF THE EXISTING STORM DRAINAGE SYSTEM.

7. CONTRACTOR SHALL CONFIRM ELEVATIONS OF ALL EXISTING UTILITIES IN THE VICINITY OF PROPOSED DRAIN LINE CROSSINGS PRIOR TO SHOP DRAWING SUBMITTAL, & SHALL NOTIFY ENGINEER OF RECORD OF ANY POTENTIAL CONFLICTS.

8. ALL UTILITY CONNECTIONS TO THE BUILDINGS SHALL BE VERIFIED WITH THE M.E.P. PLANS PRIOR TO CONSTRUCTION.

9. UNDERGROUND UTILITY LOCATIONS SHOWN ARE ESTIMATED & NOT SURVEYED. ADDITIONAL UTILITIES MAY EXIST. CONTRACTOR SHALL FIELD VERIFY ACTUAL LOCATION PRIOR TO CONSTRUCTION. NOTIFY THE ENGINEER OF RECORD OF ANY CONDITIONS THAT DO NOT MATCH THE TOPOGRAPHIC SURVEY, & EXERCISE CAUTION DURING ALL WORK.

10. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL CONNECTIONS TO EXISTING PUBLIC UTILITY SYSTEMS WITH THE APPROPRIATE AGENCY/COMPANY HAVING OWNERSHIP OF THE RESPECTIVE UTILITY SYSTEM, & SHALL INCLUDE ALL COSTS, FEES, PERMITS, ETC. IN BID.

11. CONFIRM SIZES OF EXISTING UNDERGROUND LINES TO BE TAPPED. NOTIFY ENGINEER IF LINE SIZE IS SMALLER THAN EITHER THE PROPOSED LINE TO BE CONNECTED, OR (IF APPLICABLE) THE EXISTING LINE SIZE SHOWN ON THESE PLANS.

12. WHERE PROPOSED WATER LINES & SANITARY SEWER LINES CROSS, A MINIMUM VERTICAL SEPARATION OF 12" ABOVE THE TOP OF THE SEWER LINE (MEASURED EDGE TO EDGE) SHALL BE PROVIDED BETWEEN THE LINES. THE WATER SERVICE LINE SHALL BE SLEEVED TO A POINT NOT LESS THAN 5' HORIZONTALLY FROM THE CENTERLINE OF THE SEWER LINE WITH MATERIAL APPROVED FOR WATER LINE CONSTRUCTION.

13. WATER MAINS & SEWER MAINS SHALL BE INSTALLED WITH A MINIMUM HORIZONTAL SEPARATION OF 5' (MEASURED EDGE TO EDGE).

14. PROPOSED DOMESTIC WATER PIPING SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 33 14 16.

15. ALL WATER LINES 3" IN DIAMETER & LARGER SHALL HAVE RESTRAINED JOINTS.

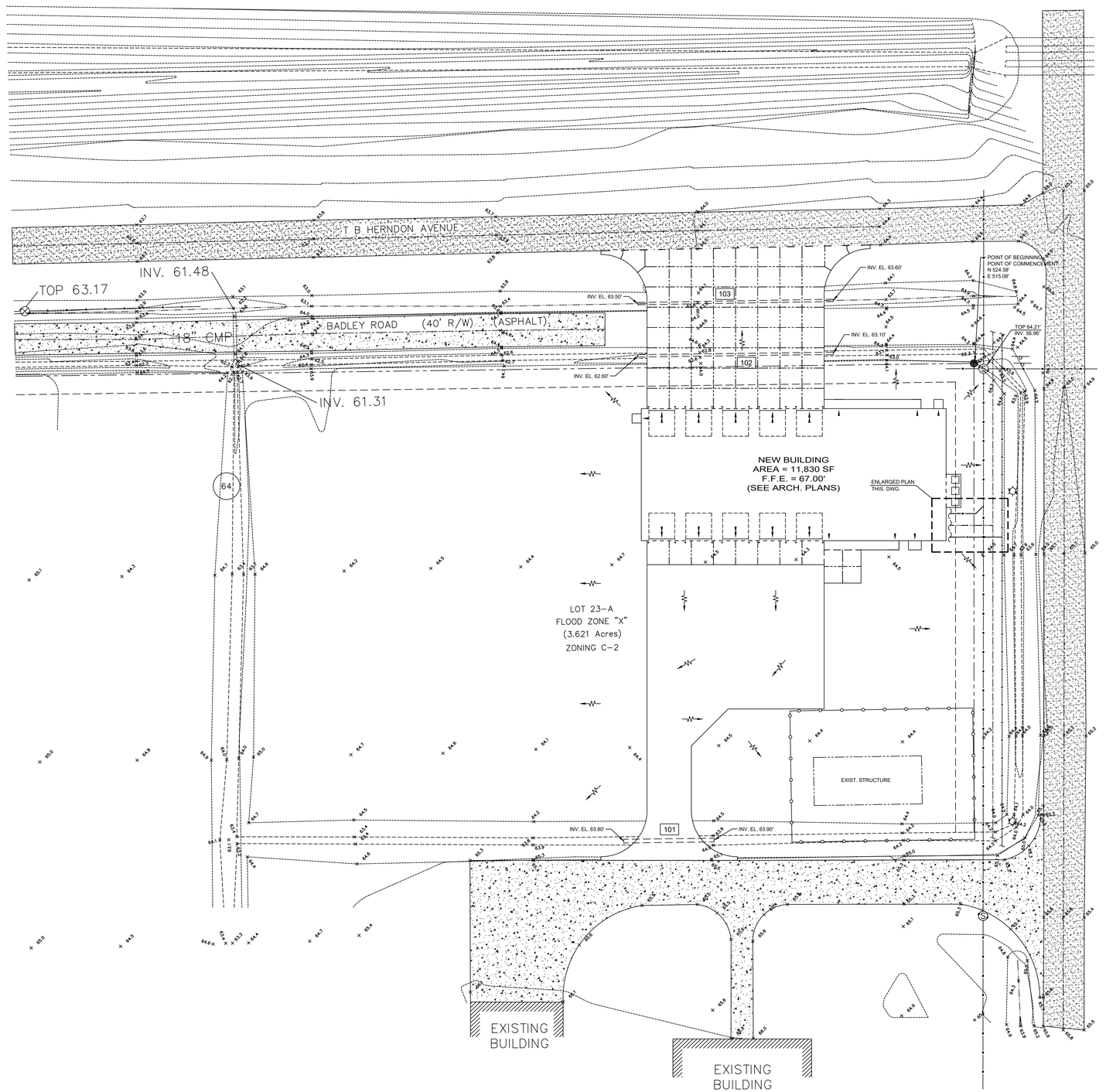
16. PROPOSED SANITARY SEWER PIPING SHALL BE PROVIDED IN ACCORDANCE WITH SPECIFICATION SECTION 33 31 13.

17. SEWER SYSTEM INSTALLATION SHALL BEGIN AT THE CONNECTION TO THE EXISTING SYSTEM & SHALL PROCEED UPSTREAM.

18. CONFIRM EXISTING SEWER TIE-IN (LOCATION & ELEVATION) IN FIELD PRIOR TO CONSTRUCTION. MEET REQUIREMENTS OF CPS 802-01.

19. COORDINATE WITH OWNER & CONFIRM IN WRITING BEFORE ANY DISCONNECTION/DEACTIVATION OF EXISTING UTILITY SERVICES.

ENLARGED PLAN
SCALE: 1/8" = 1'-0"



STORM DRAINAGE & UTILITY LAYOUT
SCALE: 1" = 30'-0"

LEGEND

× 64.5	EXISTING ELEVATION
	DIRECTION OF OVERLAND FLOW
	EXIST. SANITARY SEWER LINE
	SANITARY SEWER LINE
	EXIST. GAS LINE
	GAS LINE
	EXIST. DOMESTIC WATER LINE
	DOMESTIC WATER LINE
	PROPERTY LINE
	BUILDING LINE
	EXIST. CHAIN LINK FENCE
● CO	CLEAN OUT
	SEWER MANHOLE
	STREET LIGHT POLE
	EXIST. STORM DRAINAGE PIPE
	STORM DRAINAGE PIPE
	SEE M.E.P. FOR CONTINUATION

KEYED NOTES

1	COORDINATE WITH DELTA UTILITIES TO CONNECT GAS SERVICE TO MAIN. LOCATION OF MAIN IS APPROXIMATE. SEE NOTES 9 - 10.
2	DOMESTIC RPZ BACKFLOW PREVENTER HOUSED IN ASSE 1060 CLASS I THERMAL ENCLOSURE (INCLUDING THERMOSTATICALLY CONTROLLED 120 VOLT HEATER CERTIFIED FOR WET/DAMP LOCATIONS) ON 4" CONCRETE PAD. COORDINATE WITH ELECTRICAL PLANS FOR FEED.
3	COORDINATE WITH BATON ROUGE WATER TO TAP EXISTING WATER MAIN. CONTRACTOR'S SCOPE OF WORK SHALL BEGIN DOWNSTREAM OF METERS. SEE NOTE 10.
4	1.5" DOMESTIC WATER METER TO BE INSTALLED BY BATON ROUGE WATER.
5	CONNECT SANITARY SEWER SERVICE TO EXISTING SANITARY SEWER MAIN. SEE NOTES 10 & 18.
6	4" SANITARY SEWER SERVICE LINE @ 1.00% (MIN.)

DRAINAGE STRUCTURE TABLE

STRUCTURE	TYPE	ELEV.	INV. IN	INV. OUT	DESCRIPTION
101	STORM PIPE	F / C4.1	63.90'	63.80'	15" ARCH RCP x 56'-0"
102	STORM PIPE	H / C4.1	63.10'	62.60'	15" ARCH RCP x 128'-0"
103	STORM PIPE	I / C4.1	63.60'	63.50'	15" ARCH RCP x 128'-0"

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CIVIL ENGINEERING

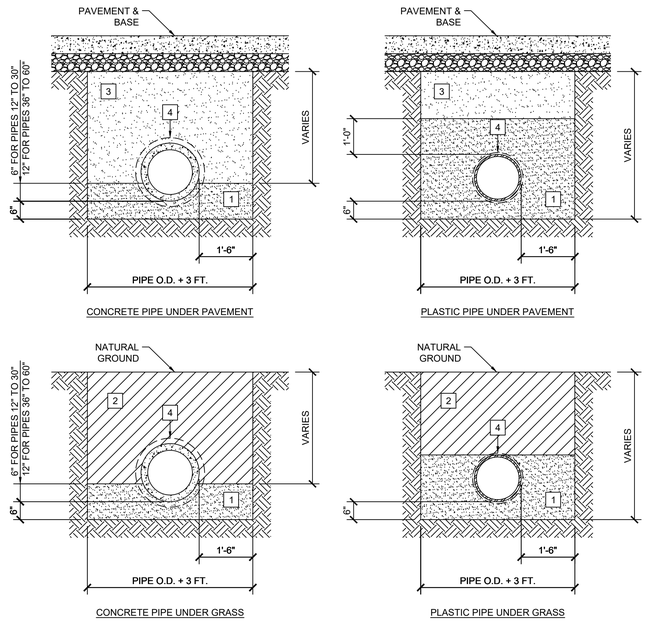
Professional Seal

Scale: As Shown

Sht Description:
STORM DRAINAGE & UTILITY LAYOUT

North

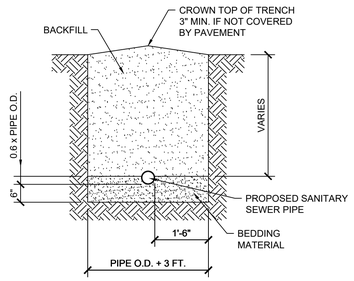
C5.0



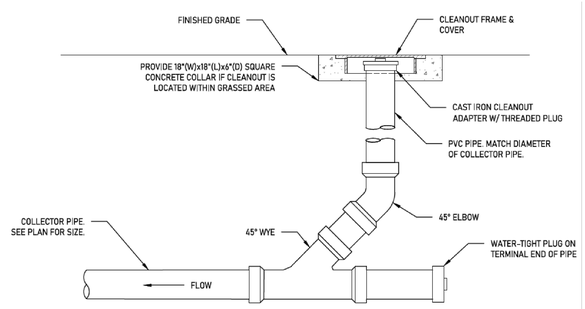
DRAINAGE BEDDING LEGEND

1. BEDDING MATERIAL COMPACTED TO 95% OF STANDARD PROCTOR DENSITY
2. BACKFILL MATERIAL COMPACTED TO MATCH OR EXCEED DENSITY OF SURROUNDING UNDISTURBED SOIL
3. BACKFILL SAND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY
4. GEOTEXTILE FABRIC @ ALL JOINTS (24" MIN.)

1 DRAINAGE PIPE BEDDING DETAILS
NTS



2 SEWER PIPE BEDDING DETAIL
NTS



3 CLEANOUT DETAIL
NTS

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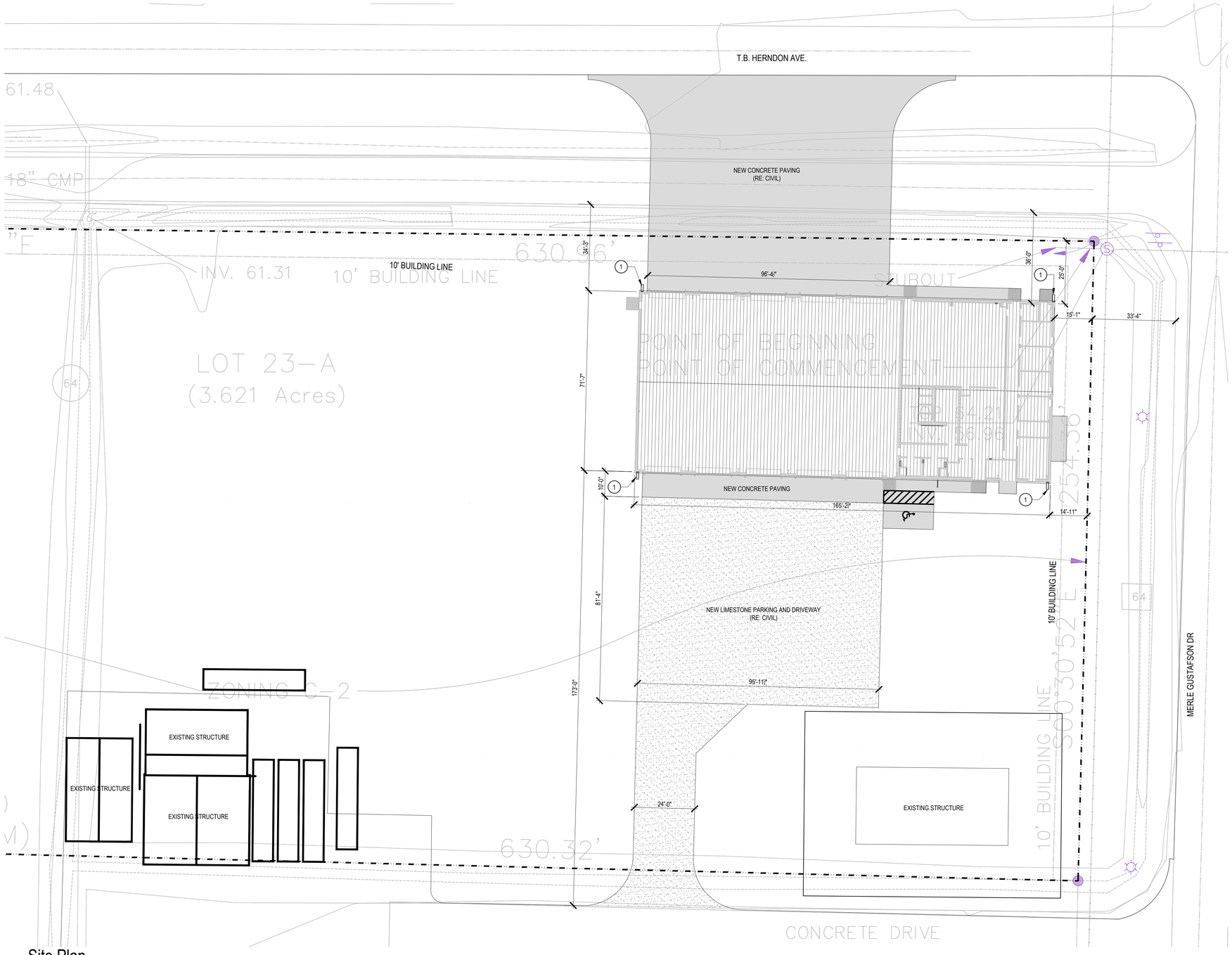
Professional Seal
Scale: As Shown
Sht Description:
STORM DRAINAGE & UTILITY DETAILS

North

C5.1

SITE PLAN KEYNOTES

1. 12" X 36" PRECAST CONCRETE SPLASH BLOCK



1 Site Plan
Scale: 1" = 20'-0"

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Revisions:

WALKER T. DAUZAT
REG. NO 6823
STATE OF LOUISIANA
REGISTERED ARCHITECT
09/12/2025

Professional Seal
Scale: *1" = 20'-0"*
Sht Description:
Architectural Site Plan

North

AS1.01

FINISH SCHEDULE

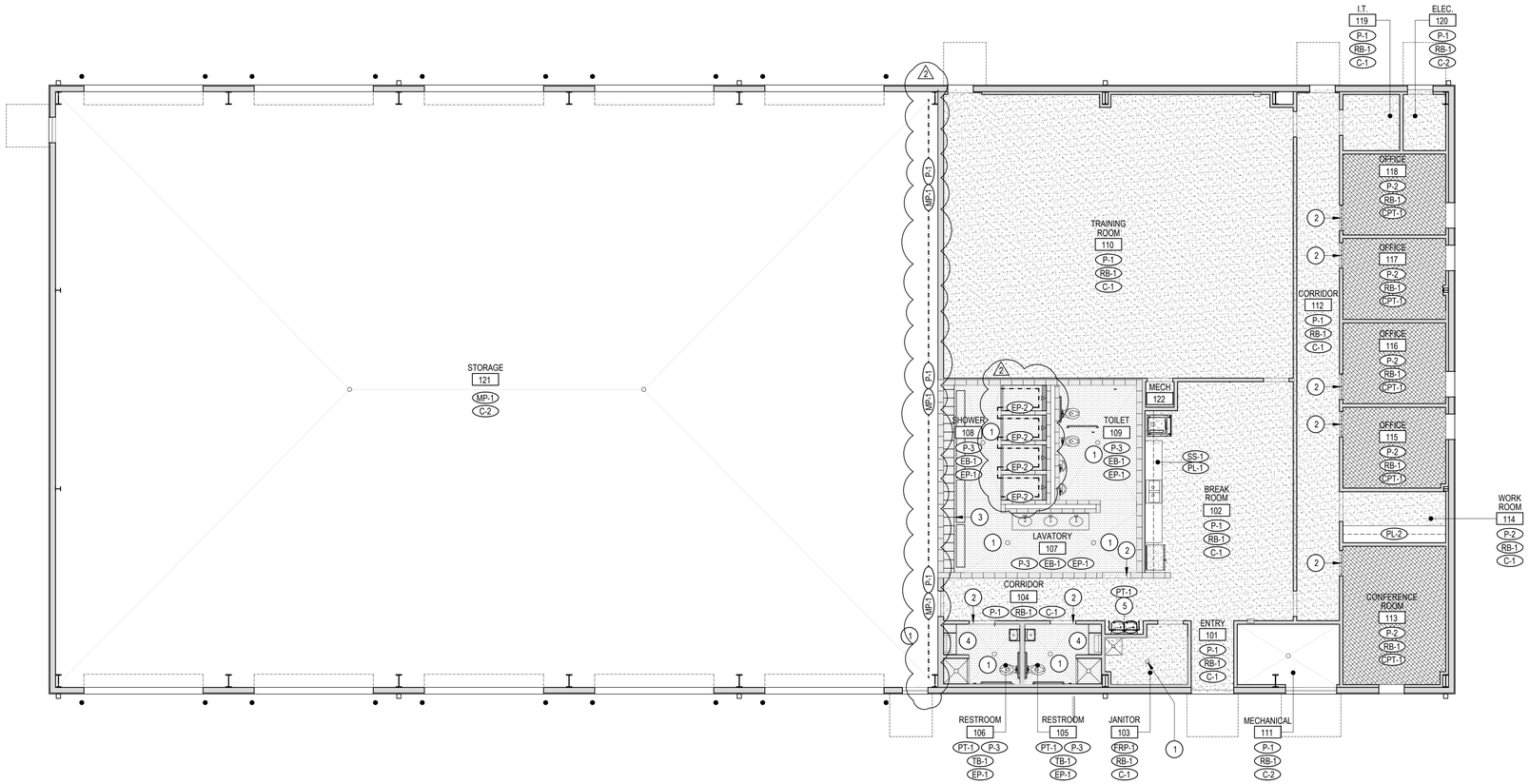
RM NO.	DESCRIPTION	FLOOR			WALL (NORTH)		WALL (EAST)		WALL (SOUTH)		WALL (WEST)		MILLWORK		CEILING			NOTES:
		MATERIAL	FINISH	BASE	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
101	ENTRY	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			PANEL	ACP-1	10'-0"	
102	BREAK ROOM	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1	PLAM / SS	PL-1 / SS-1	PANEL/GYP	ACP-1/P-1	10'-0"/8'-6"	FURR-DOWNS TO BE PAINTED TO MATCH ADJACENT WALL COLOR AS NOTED
103	JANITOR	CONC	C-1	RB-1	FRP	FRP-1	FRP	FRP-1	FRP	FRP-1	FRP	FRP-1			GYP	P-5	10'-0"	
104	CORRIDOR	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			PANEL	ACP-1	10'-0"	WATER COOLER ALCOVE TILE (PT-1) AT 3 WALLS; TILE (PT-1)TO TERMINATE AT 7'-6" AFF
105	RESTROOM	EPOXY	EP-1	TB-1	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3			GYP	P-5	10'-0"	TILE (PT-1) TO TERMINATE AT 7'-6" AFF
106	RESTROOM	EPOXY	EP-1	TB-1	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3	TILE / GYP	PT-1 / P-3			GYP	P-5	10'-0"	TILE (PT-1) TO TERMINATE AT 7'-6" AFF
107	LAVATORY	EPOXY	EP-1	EB-1	BLOCK	P-3	BLOCK	P-3	BLOCK	P-3	BLOCK	P-3	SS	SS-1	GYP	P-5	10'-0"	
108	SHOWER	EPOXY	EP-1	EB-1	EPOXY	EP-2	EPOXY	EP-2	EPOXY	-	-	EP-2			GYP	P-5	10'-0"	
109	TOILET	EPOXY	EP-1	EB-1	BLOCK	P-3	BLOCK	P-3	BLOCK	P-3	BLOCK	P-3			GYP	P-5	10'-0"	
110	TRAINING ROOM	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			PANEL	ACP-1	12'-0"	
111	MECHANICAL	CONC	C-2	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			-	-	-	
112	CORRIDOR	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			PANEL	ACP-1	10'-0"	
113	CONFERENCE ROOM	CARPET	CPT-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2			PANEL	ACP-1	10'-0"	
114	WORK ROOM	CONC	C-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2	PLAM	PL-1 / PL-2	PANEL	ACP-1/P-2	10'-0"/8'-6"	FURR-DOWNS TO BE PAINTED TO MATCH ADJACENT WALL COLOR AS NOTED
115	OFFICE	CARPET	CPT-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2			PANEL	ACP-1	10'-0"	
116	OFFICE	CARPET	CPT-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2			PANEL	ACP-1	10'-0"	
117	OFFICE	CARPET	CPT-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2			PANEL	ACP-1	10'-0"	
118	OFFICE	CARPET	CPT-1	RB-1	GYP	P-2	GYP	P-2	GYP	P-2	GYP	P-2			PANEL	ACP-1	10'-0"	
119	I.T.	CONC	C-1	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			PANEL	ACP-1	10'-0"	
120	ELEC.	CONC	C-2	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			-	-	-	
121	STORAGE	CONC	C-2	RB-1	MTL	MP-1	MTL/ GYP/ BLK	MTL	MTL	MP-1	MTL	MP-1			-	-	-	METAL WALL PANELS TO TERMINATE AT10'-0" AFF. RATED GYP & BLOCK WALL TO BE PAINTED ABOVE: REFER TO A3.02
122	MECH	CONC	C-2	RB-1	GYP	P-1	GYP	P-1	GYP	P-1	GYP	P-1			-	-	-	

FINISH PLAN GENERAL NOTES

1. ALL DIMENSIONS TO FACE OF STUD UNLESS NOTED OTHERWISE.
2. INTERIOR FINISHES SHALL COMPLY WITH NFPA 101:36.3.3 (0-75) FLAMESPREAD WITH SMOKE DEVELOPMENT OF (0-450).
3. INTERIOR FLOOR FINISHES SHALL COMPLY WITH NFPA 101 18.3.3.3.
4. LOOSELY HANGING FURNISHINGS AND DECORATIONS SHALL BE FLAME RESISTANT AS DEMONSTRATED BY TESTING IN ACCORDANCE WITH NFPA 701.
5. INSULATION ASSEMBLIES SHALL MEET THE REQUIREMENTS OF SECTION 708, INTERNATIONAL BUILDING CODE, 2021 EDITION.
6. PROVIDE TRANSITION STRIPS AS PER MANUFACTURER'S RECOMMENDATION AT ALL DISSIMILAR FINISH ABUTMENTS AND THRESHOLDS.
7. GC TO PROVIDE BLOCKING AS REQUIRED FOR ALL WALL HUNG EQUIPMENT AND ACCESSORIES.
8. 1/2" CEMENT BACKER BOARD BEHIND ALL WALL TILE.
9. ALL MILLWORK BASE/ TOE KICKS TO BE 4"H (RB-1) UNLESS OTHERWISE NOTED, RE: INTERIOR ELEVATIONS.

FINISH KEY

TAG	DESCRIPTION	MANUFACTURER	NOTES
CEILING			
ACP-1	ACOUSTICAL CEILING TILE		24"x24" - SQUARE LAY-IN - WHITE W/ COORDINATING WHITE ACOUSTICAL CEILING GRID
ACP-2	ACOUSTICAL CEILING TILE		24"x24" - VINYL FACED/ MOISTURE RESIST. - SQUARE LAY-IN - WHITE W/ COORDINATING WHITE ACOUSTICAL CEILING GRID
P-5	PAINT		CEILING COLOR
P-6	PAINT		CEILING ACCENT COLOR
P-7	PAINT		CEILING COLOR / EXPOSED STRUCTURE
EP-2	EPOXY-RESINOUS WALLCOATING		TO INCLUDE ALL MANUFACTURER RELATED PRIMERS, SKIM COATS, WALL COATING, TOP COAT, ETC. (2)
FLOORING			
C-1	POLISHED CONCRETE		
C-2	SEALED CONCRETE		
CPT-1	MODULAR CARPET TILE		COORDINATES WITH RB-1
EP-1	EPOXY-RESINOUS FLOORING		ROLL UP WALL 6" ABOVE FINISH FLOOR; COORDINATE W/ EB-1
BASE			
EB-1	ROLL UP WALL EPOXY BASE		ROLL UP WALL 6" ABOVE FINISH FLOOR; COORDINATE W/ EP-1
RB-1	RESILIENT BASE		4" BASE
TB-1	TILE COVE BASE		COORDINATES WITH PT-1
WALL			
FRP-1	WALL PANEL		INCLUDE ALL APPLICABLE PVC TRIMS/ END PIECES/ CORNERS
MP-1	METAL PANEL		PREFINISHED METAL "R" WALL PANELS, "J" TRIM AT TOP & OPENINGS, "L" TRIM AT BASE; 10'-0" AFF
P-1	PAINT		WALL FIELD COLOR
P-2	PAINT		WALL FIELD COLOR
P-3	PAINT		WALL FIELD COLOR; COORDINATES WITH PT-1
P-4	PAINT		ACCENT COLOR
P-8	PAINT		INTERIOR DOOR FRAME & TRIM COLOR
PT-1	PORCELAIN TILE		WALL FIELD TILE; COORDINATES WITH P-3; TERMINATE WITH BULLNOSE TILE (RE: INTERIOR ELEV); EPOXY GROUT
MILLWORK			
PL-1	PLASTIC LAMINATE		MILLWORK FACE; PREMIUM FINISH - W/ RIDGEWOOD OR LINEAR FINISH
PL-2	PLASTIC LAMINATE		MILLWORK COUNTER; STANDARD FINISH - W/ FINE VELVET OR MATTE FINISH
SS-1	SOLID SURFACE		MILLWORK COUNTER; STANDARD FINISH
EXTERIOR			



1 Finish Plan
Scale: 1/8" = 1'-0"

FINISH PLAN LEGEND

- C-1 — POLISHED CONCRETE, RE: SCHEDULE
- C-2 — SEALED CONCRETE, RE: SCHEDULE
- CPT-1 — MODULAR CARPET TILE, RE: SCHEDULE
- EP-1 — EPOXY FLOORING, RE: SCHEDULE
- X — ACCENT WALL, RE: SCHEDULE

FINISH PLAN KEYNOTES

1. FLOOR DRAIN (RE: PLUMBING) SLOPE FLOOR TO DRAIN 1/8:12.
2. ALUMINUM TRANSITION STRIPS TO BE INSTALLED AT THRESHOLDS/ FLOORING FINISH MATERIAL CHANGES, VERIFY AND COORDINATE HEIGHT W/ ADJACENT FLOORING MATERIALS (RE: SPECIFICATIONS)
3. SOLID PLASTIC (HDPE) DOUBLE -TIER LOCKERS (42) WITH SOLID PLASTIC (HDPE) BENCH IN FRONT; FULL LENGTH OF WALL (RE: SPECIFICATIONS)
4. SOLID PLASTIC (HDPE) DOUBLE -TIER LOCKERS (2) WITH SOLID PLASTIC (HDPE) BRACKET MOUNTED BENCH BESIDE (RE: SPECIFICATIONS)
5. ALUMINUM CORNER TRIM/ TRANSITION STRIP TO BE INSTALLED AT CORNER FINISH MATERIAL CHANGES/ TERMINATIONS OF PORCELAIN TILE (PT-1)

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SARS Building

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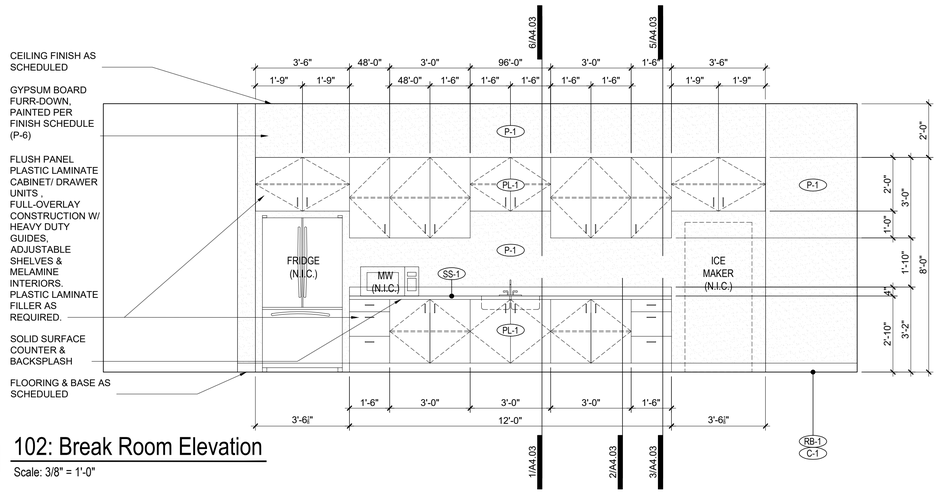
Phase: Construction Documents
Date: 03.31.25
Revisions:
2 ADDENDUM 2 - 09.11.25

WALKER T. DAUZAT REG. NO 6823 STATE OF LOUISIANA REGISTERED ARCHITECT
09/12/2025

Professional Seal
Scale: 1/8" = 1'-0"
Sht Description: Finish Plan

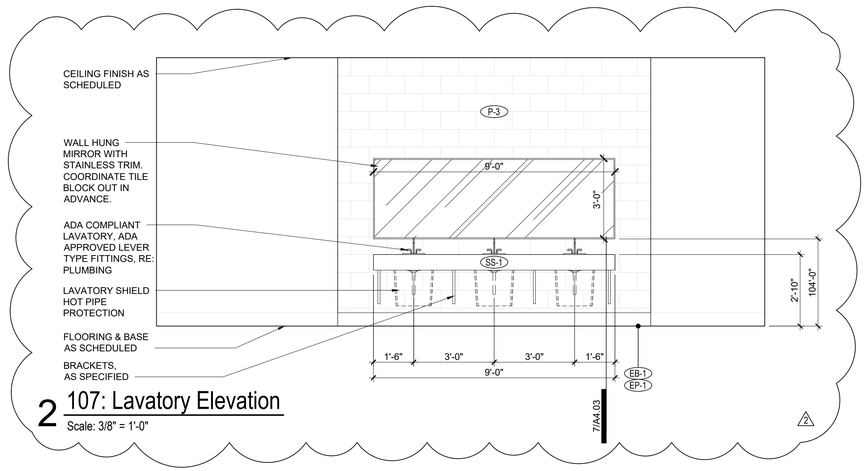
North

A4.01



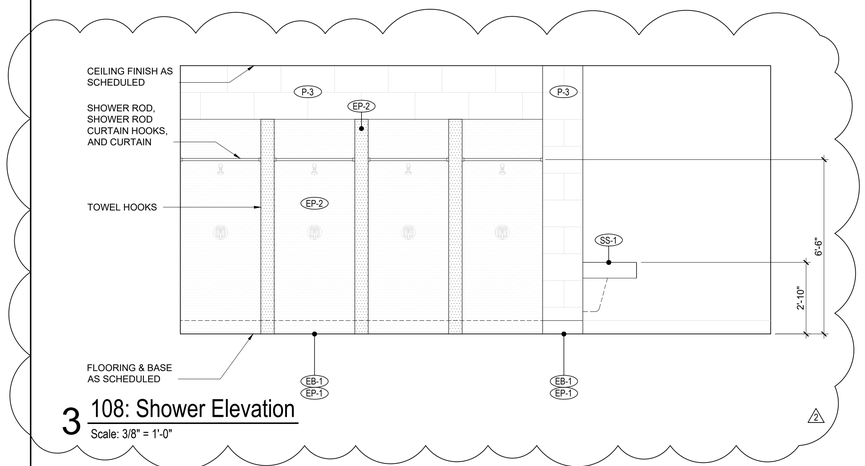
1 102: Break Room Elevation

Scale: 3/8" = 1'-0"



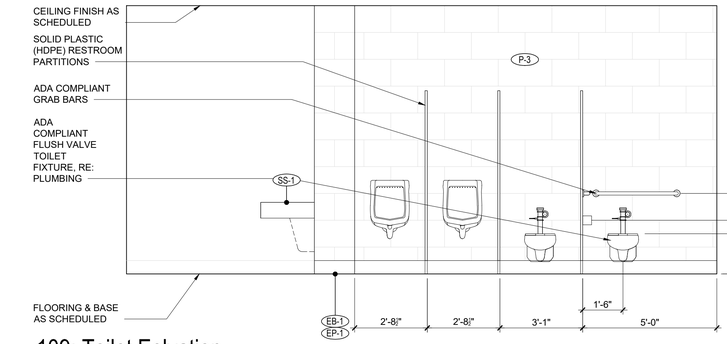
2 107: Lavatory Elevation

Scale: 3/8" = 1'-0"



3 108: Shower Elevation

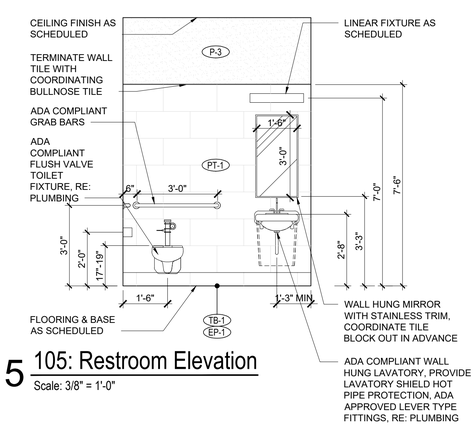
Scale: 3/8" = 1'-0"



4 109: Toilet Eelvation

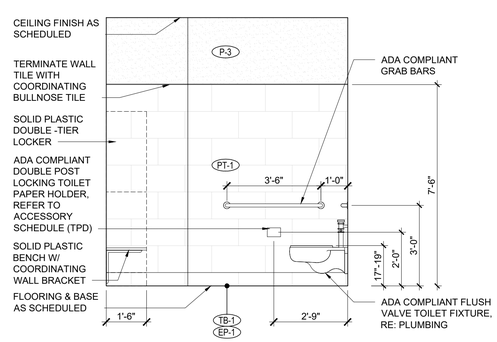
Scale: 3/8" = 1'-0"

RESTROOM ACCESSORIES SHALL INCLUDE:	NOTES:
• HAND SOAP DISPENSERS • PAPER TOWEL DISPENSERS (BY OWNER) • TRASH CANS (BY OWNER) • STANDARD ROLL/ SIZE TOILET PAPER DISPENSERS REFER TO SPECIFICATIONS, COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS WITH ARCHITECT.	• NEW S.S. HANDICAPPED GRAB BARS W/ SLIP RESISTANT TEXTURE @ EACH ADA ACCESSIBLE TOILET AS SHOWN ON PLAN & ELEVATIONS. BARS SHALL RESIST A CONCENTRATED LOAD OF 250 LBS, AT ANY POINT, MINIMUM, AS PER IBC 1607.8.2. PROVIDE BLOCKING AS REQUIRED.



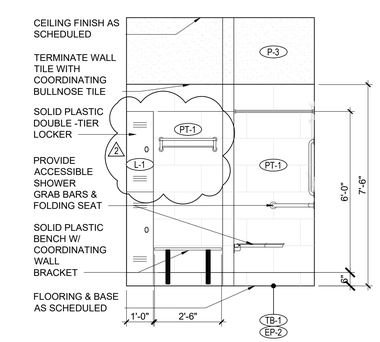
5 105: Restroom Elevation

Scale: 3/8" = 1'-0"



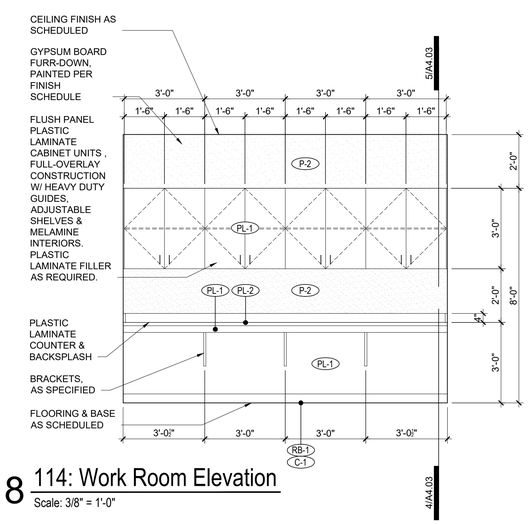
6 105: Restroom Elevation

Scale: 3/8" = 1'-0"



7 105: Restroom Elevation

Scale: 3/8" = 1'-0"



8 114: Work Room Elevation

Scale: 3/8" = 1'-0"

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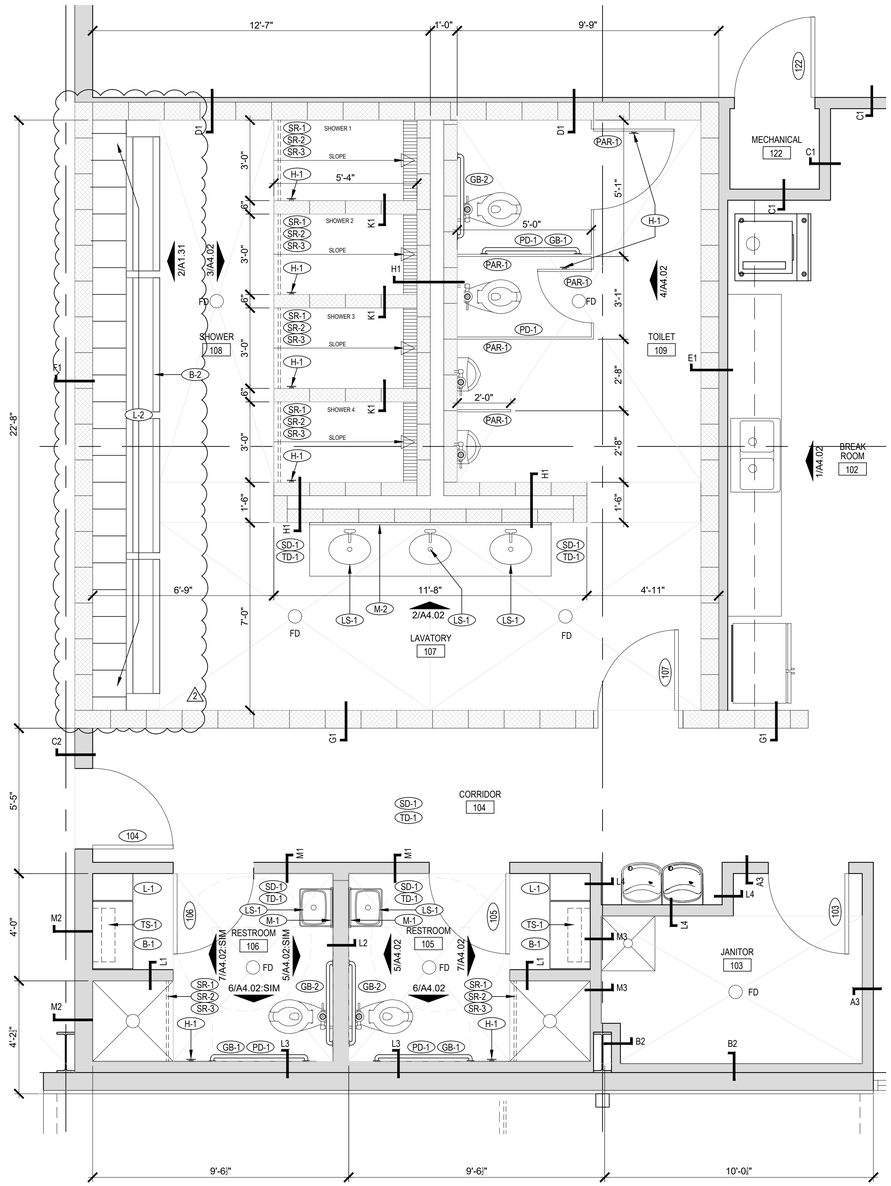
Phase: Construction Documents
Date: 03.31.25
Revisions:
2 ADDENDUM 2 - 09.11.25

WALKER T. DAUZAT REG. NO 68234 STATE OF LOUISIANA REGISTERED ARCHITECT
09/12/2025

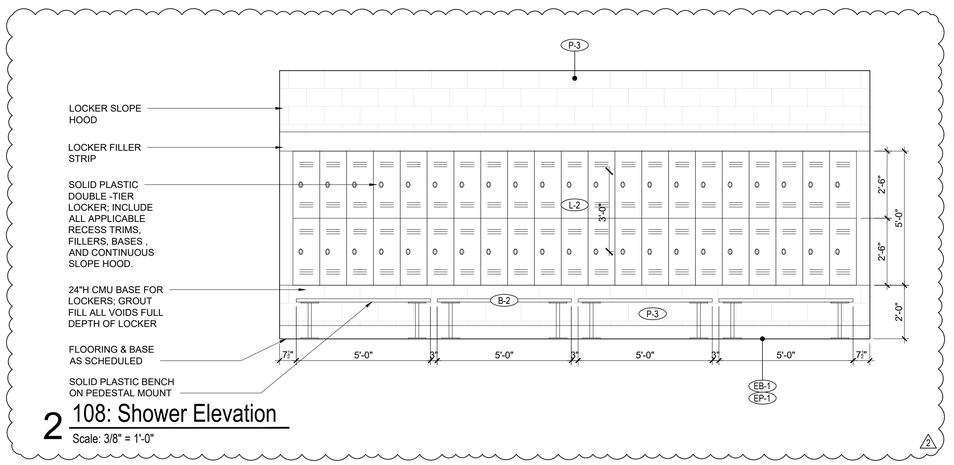
Professional Seal
Scale: *As Noted*
Sht Description:
Interior Elevations

North

A4.02



1 Enlarged Plan
Scale: 3/8" = 1'-0"



2 108: Shower Elevation
Scale: 3/8" = 1'-0"

RESTROOM ACCESSORY SCHEDULE

SYMBOL	QTY	ITEM	DESCRIPTION	NOTES
B-1	2	BENCH	SOLID PLASTIC (HDPE) BENCH TOP - 18"D x 30"W (APPROX) - WALL MOUNT BRACKETS	FINISH TO MATCH L-1; VERIFY FIELD DIMENSIONS
B-2	4	BENCH	SOLID PLASTIC (HDPE) BENCH TOP - 12"D x 60"W - PEDESTAL MOUNT	FINISH TO MATCH L-2; VERIFY FIELD DIMENSIONS
GB-1	3	GRAB BAR - 42" LENGTH - 1 1/2" DIAMETER	1 1/2" DIA. SNAP FLANGE GRAB BAR - 42" - TYPE 304 STAINLESS STEEL SATIN FINISH	ONE (1) AT EACH ADA ACCESSIBLE TOILET
GB-2	3	GRAB BAR - 36" LENGTH - 1 1/2" DIAMETER	1 1/2" DIA. SNAP FLANGE GRAB BAR - 36" - TYPE 304 STAINLESS STEEL SATIN FINISH	ONE (1) AT EACH ADA ACCESSIBLE TOILET
H-1	8	TOWEL / ROBE HOOK	ROBE HOOK (DOUBLE) - SURFACE MOUNTED - STAINLESS STEEL SATIN FINISH	MOUNTING HEIGHT @ 48" AFF, PER ADA STANDARDS
L-1	2	LOCKERS	SOLID PLASTIC (HDPE) LOCKER - DOUBLE-TIER (12"x18"x78") W/ BASE - FULL BODY COLOR - SELF LATCHING DOOR - SINGLE	SINGLE (1) DOUBLE-STACKED LOCKER UNIT, 2 TOTAL COMPARTMENTS; FINISH TO MATCH B-1; VERIFY FIELD DIMENSIONS
L-2	-	LOCKERS	SOLID PLASTIC (HDPE) LOCKER - DOUBLE-TIER (12"x15"x60") NO BASE - FULL BODY COLOR - SELF LATCHING DOOR - FULL RUN	21 DOUBLE-STACKED LOCKER UNITS, 42 TOTAL COMPARTMENTS; FINISH TO MATCH B-2; VERIFY FIELD DIMENSIONS
LS-1	5	LAVATORY SHIELD	LAVATORY SHIELD - WHITE - PRE-CUT	PROVIDE ONE (1) AT EACH FIXTURE, COORDINATE WITH FIXTURE SELECTION (RE: PLUMBING L-1)
MI-1	2	MIRROR - RESTROOM - 18"X36"	STAINLESS STEEL CHAN-LOK PLATE GLASS MIRROR - TYPE 304 ALLOY 18-8 STAINLESS STEEL SATIN FINISH FRAME	INSTALL/ MOUNT WITH THE BOTTOM EDGE NO HIGHER THAN 40" AFF.
MI-2	1	MIRROR - RESTROOM - 108X36"	STAINLESS STEEL CHAN-LOK PLATE GLASS MIRROR - TYPE 304 ALLOY 18-8 STAINLESS STEEL SATIN FINISH FRAME	INSTALL/ MOUNT WITH THE BOTTOM EDGE NO HIGHER THAN 40" AFF.
PAR-1	-	TOILET PARTITIONS	SOLID PLASTIC (HDPE) PARTITIONS	REFER TO DRAWINGS FOR LOCATIONS, VERIFY FIELD DIMENSIONS; FINISH TO MATCH B-2 & L-2
PD-1	4	TOILET PAPER DISPENSER	STANDARD TOILET PAPER DISPENSER	ONE (1) MIN. AT EACH TOILET FIXTURE; N.I.C. / BY OWNER
SD-1	4	LIQUID SOAP DISPENSER	-	ONE (1) MIN. AT EACH LAVATORY UNLESS NOTED OTHERWISE; N.I.C. / BY OWNER
SR-1	6	SHOWER ROD	SHOWER CURTAIN ROD - 1 1/4" DIA. BAR - STAINLESS STEEL SATIN FINISH - 36"L - W/ END FLANGES	COORDINATE WITH SR-2
SR-2	6 SETS	SHOWER ROD HOOKS	SHOWER CURTAIN HOOK SET - STAINLESS STEEL	COORDINATE WITH SR-1
SR-3	6	SHOWER ROD CURTAIN	COMMERCIAL GRADE SHOWER CURTAIN - HEAVY PVC VINYL W/ MICROBAN - RUSTPROOF / RUST RESISTANT GROMMETS	FINAL FINISH SELECTION TO BE VERIFIED WITH OWNER
TD-1	4	PAPER TOWEL DISPENSER	-	ONE (1) MIN. AT EACH LAVATORY UNLESS NOTED OTHERWISE; N.I.C. / BY OWNER
TS-1	2	TOWEL SHELF	TOWEL SHELF W/ HANGER ROD - TYPE 304 STAINLESS STEEL SATIN FINISH	MOUNTING HEIGHT @ 60"- 72" AFF, VERIFY WITH OWNER ON SITE PRIOR TO INSTALL

NOTES:
EQUIP EACH RESTROOM WITH, OR EQUAL TO:

- WHITE WALL MOUNTED LAVATORY. TOP SHALL BE NO HIGHER THAN 34" AFF. THERE SHALL BE 29" CLEARANCE AFF TO THE BOTTOM OF THE LAVATORY APRON. FAUCET SHALL HAVE LEVER HANDLES, SINGLE OR SEPARATE HOT AND COLD ARE ACCEPTABLE.
- ADA COMPLIANT, WHITE FLOOR MOUNTED WATER CLOSET.
- S.S. HANDICAPPED GRAB BARS W/ SLIP RESISTANT TEXTURE @ EACH ADA ACCESSIBLE TOILET AS SHOWN ON PLAN & ELEVATION. GRAB BARS, HORIZONTAL, AND VERTICAL, SHALL BE LOCATED BEHIND AND ALONG ONE SIDE OF THE WATER CLOSET AND SET AT A HEIGHT OF 33"-36" AFF. THE LENGTH OF EACH GRAB BAR SHALL COMPLY WITH ADA. BARS SHALL RESIST A CONCENTRATED LOAD OF 250 LBS, AT ANY POINT, MINIMUM, AS PER IBC 1607.8.2. PROVIDE BLOCKING AS REQUIRED.
- MIRROR TO BE A MINIMUM OF 18"W X 36"H MOUNTED WITH THE BOTTOM EDGE NO HIGHER THAN 40" AFF.
- RESTROOM SIGN MOUNTED 60" AFF (CENTERLINE) ON THE WALL ADJACENT TO THE LATCH SIDE OF THE RESTROOM DOOR. THE SIGN, WITH ALL SYMBOLS RAISED AND IN CONTRASTING COLORS TO THE BACKGROUND, SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY, BRAILLE, AND "MEN" AND/OR "WOMEN" SYMBOLS.
- ADDITIONAL ITEMS AS LISTED IN THE RESTROOM ACCESSORY SCHEDULE.
- COORDINATE ALL MOUNTING HEIGHTS AND LOCATIONS WITH ARCHITECT. INSTALL PER ADA STANDARD RECOMMENDATIONS.
- LOCKERS TO INCLUDE ALL APPLICABLE RECESS TRIMS, FILLERS, BASES, AND SLOPE HOODS. 2

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Phase: Construction Documents
Date: 03.31.25
Revisions:
2 ADDENDUM 2 - 09.11.25

WALKER T. DAUZAT
REG. NO 68234
STATE OF LOUISIANA
REGISTERED ARCHITECT
09/12/2025

Professional Seal
Scale: *As Noted*
Sht Description:
Enlarged Plan

North

A1.31

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

1.2 SUMMARY

A. This Section specifies cast-in place concrete, including formwork, reinforcement, concrete materials, mixture design, placement procedures, and finishes, for the following:

1. Footings.
2. Grade beams
3. Slabs-on-grade.

B. This specification section applies to all references in the contract documents to specification section 03 10 00, 03 20 00, or 03 30 00.

C. Related Sections include the following:

1. Division 31 Section "Earth Moving – Building Pad" for drainage fill under slabs-on-grade.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement. None of the following are allowed in any concrete in this project: blended hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume; subject to compliance with requirements.

B. W/C Ratio: The ratio by weight of water to cementitious materials.

1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Design Mixtures: Submit a design mixture for each concrete mixture, proportioned on the basis of field experience or trial mixtures, or both, as required by ACI 318-14, chapter 26. Evidence of the ability of the proposed mixture to comply with concrete mixture requirements on the Drawings shall be included. The evidence shall be based on field test records or laboratory trial batches. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

1. Indicate amount of mixing water to be withheld for later addition at Project site. The amount of water withheld shall not exceed five percent (5%) of the total batch water.

C. Steel Reinforcement Shop Drawings: Placing drawings that detail fabrication, bending, and placement. Comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing but not limited to bar sizes, lengths, material, grade, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, splices and laps, mechanical connections, tie spacing, hoop spacing, and supports for concrete reinforcement. Reproductions made from contract drawings will not be accepted. Submit one (1) electronic print. Review of shop drawings by the Engineer will be for general compliance with contract documents.

D. Field quality-control test and inspection reports.

E. The scope of the above submittals shall only include the items covered by this Section. Do not include items covered by other Sections such as site paving product data, site paving design mixtures, or site paving steel reinforcement shop drawings.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site (with video teleconferencing capabilities) and verify acceptable date with Architect and Engineer a minimum of one week prior to scheduling.

1. Before submitting design mixtures, review concrete design mixture and examine procedures for ensuring quality of concrete materials. Require representatives of each entity directly concerned with cast-in-place concrete to attend, including the following:
    a. Contractor's superintendent.
    b. Independent testing agency responsible for concrete design mixtures.
    c. Ready-mix concrete manufacturer.
    d. Concrete Subcontractor.
2. Review special inspection and testing and inspecting agency procedures for field quality control, concrete finishes and finishing, cold- and hot-weather concreting procedures, curing procedures, construction contraction and isolation joints, and joint-filler strips, semirigid joint fillers, forms and form removal limitations, shoring and reshoring procedures, vapor-retarder installation, anchor rod and anchorage device installation tolerances, steel reinforcement installation, methods for achieving specified floor and slab flatness and levelness, floor and slab flatness and levelness measurement, concrete repair procedures, and concrete protection.
3. Contact vapor barrier manufacturer for preinstallation meeting and to coordinate review of the vapor barrier installation either by digital review or in person.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs qualified personnel on the Project, Flatwork Technicians with at least three (3) years experience, Finishers with at least three (3) years experience and a Supervisor with at least ten (10) years experience in concrete finishing and flatwork.

B. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

C. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified according to ASTM C 1077 and ASTM E 329 for testing indicated, as documented according to ASTM E 548.

1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-01 or an equivalent certification program.

2. Personnel performing laboratory tests shall be ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician - Grade I. Testing Agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician - Grade II.

D. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

E. ACI Publications: Comply with the following unless modified by requirements in the Contract Documents:

1. ACI 301, "Specification for Structural Concrete for Buildings,"

2. ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3. ACI 318, “Building Code Requirements for Structural Concrete.”

F. Concrete Testing Service: Owner shall engage (and pay for) a qualified independent testing agency to perform material evaluation tests. Contractor shall engage and pay a qualified independent testing agency to design concrete mixtures.

G. Materials and installed work may require testing and retesting, as directed by Architect, at anytime during progress of work. Allow free access to material stockpiles and facilities. Tests, including retesting of rejected materials for installed work, shall be done at Contractor’s expense.

H. For all concrete placement events, all steel reinforcement, other embedded items, and formwork shall be set and finalized a minimum of (3) three hours prior to the time of initial concrete placement to allow time for proper observation/inspection by the design team and the testing agency and time for resolution of any discrepancies.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage.

B. Waterstops (if required): Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 FORM-FACING MATERIALS

A. Forms for Exposed Finished Concrete: Form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

1. Plywood, metal, or other approved panel materials.

a. B-B (Concrete Form), Class 1 or better; mill oiled and edge sealed.

B. Forms for Unexposed Finished Concrete: Plywood, lumber, metal, or another approved material. Provide lumber dressed on at least two edges and one side for tight fit.

1. Form foundation elements as indicated on contract documents (typically placed in general notes of the structural plans).

C. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that will produce surfaces with gradual or abrupt irregularities not exceeding specified formwork surface class. Provide units with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

D. Chamfer Strips (if required): Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

E. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

1. Formulate form-release agent with rust inhibitor for steel form-facing materials.

F. Form Ties: Factory-fabricated, removable or snap-off metal or glass-fiber-reinforced plastic form ties designed to resist lateral pressure of fresh concrete on forms and to prevent spalling of concrete on removal.

1. Furnish units that will leave no corrodible metal closer than 1 inch to the plane of exposed concrete surface.

2. Furnish ties that, when removed, will leave holes no larger than 1 inch in diameter in concrete surface.

3. Furnish ties with integral water-barrier plates to walls indicated to receive dampproofing or waterproofing.

2.2 STEEL REINFORCEMENT

A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.

1. All reinforcing bars to be welded shall be ASTM A706, deformed.

B. Plain-Steel Wire: ASTM A 82.

C. Deformed-Steel Wire: ASTM A 1064.

D. Plain-Steel Welded Wire Reinforcement: ASTM A 1064, plain, fabricated from as-drawn steel wire into flat sheets.

E. Deformed-Steel Welded Wire Reinforcement: ASTM A 1064, flat sheet.

2.3 REINFORCEMENT ACCESSORIES

A. Joint Dowel Bars (if required): ASTM A 615/A 615M, Grade 60, plain-steel bars, cut bars true to length with ends square and free of burrs.

B. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire reinforcement in place. Manufacture bar supports from steel wire, plastic, or precast concrete according to CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:

1. For concrete surfaces exposed to view or weather where legs of wire bar supports contact forms (or occur within 1-1/2 inches of surface), use CRSI Class 1 plastic-protected steel wire or CRSI Class 2 stainless-steel bar supports.

2.4 CONCRETE MATERIALS

A. Cementitious Material: Use either of the following cementitious materials, of the same type, brand, and source, throughout Project:

1. Portland Cement: ASTM C 150, Type I/II unless otherwise acceptable to Architect.
2. Blended Hydraulic Cement: ASTM C 595, Type IL (10), 10% limestone substitution.

B. Normal-Weight Aggregates: ASTM C 33, coarse aggregate or better, graded. Provide aggregates from a single source with documented service record data of satisfactory service in similar applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 1 inch nominal for regular sand and gravel mixtures.
2. Maximum Coarse-Aggregate Size: 0.5 inch nominal for sand and pea gravel mixtures. Use a #8 stone aggregate gradation per ASTM C 33 for pea gravel aggregate.
3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: ASTM C 94/C 94M and potable. Clean and not detrimental to concrete.

2.5 ADMIXTURES

A. Air-Entraining Admixture: ASTM C 260.

B. Chemical Admixtures: Provide admixtures certified by manufacturer to be compatible with other admixtures and that will not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.

2. Retarding Admixture: ASTM C 494/C 494M, Type B.
3. Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.
5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494/C 494M, Type G.
6. Plasticizing and Retarding Admixture: ASTM C 1017/C 1017M, Type II.

2.6 WATERSTOPS

A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Carlisle Coatings & Waterproofing Inc; MiraSTOP.
   b. CETCO; Volclay Waterstop-RX.
   c. Concrete Sealants Inc.; Conseal CS-231.
   d. Greenstreak; Swellstop.
   e. Henry Company, Sealants Division; Hydro-Flex.
   f. JP Specialties, Inc.; Earth Shield Type 20.

2.7 VAPOR RETARDERS

A. Plastic Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape. The vapor retarder shall maintain a permeance of less than .01 perms as tested before and after mandatory conditioning tests (per ASTM E 1745 Section 7.1 and sub-paragraphs 7.1.2-5).

1. Available Products:
   a. Fortifiber Building Systems Group; Moistop Ultra.
   b. Meadows, W. R., Inc.; Perminator.
   c. Raven Industries Inc.; Vapor Block.
   d. Reef Industries, Inc.; Griffolyn.
   e. Stego Industries, LLC; Stego Wrap.
2. Refer to contract plan documents for minimum vapor retarder thickness in mils.
3. Vapor proofing mastic: water vapor transmission rate per ASTM E 96 of 0.3 perms or lower.
4. Seam tape: must have a water vapor transmission rate of 0.3 perms or lower in accordance with ASTM E 96

2.8 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) when dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

2.9 RELATED MATERIALS

A. Expansion- and Isolation-Joint-Filler Strips (if required): ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork.

B. Semirigid Joint Filler: Two-component, semirigid, 100 percent solids**,** epoxy resin with a Type A shore durometer hardness of 80 per ASTM D 2240.

C. Bonding Agent (if required): ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene..

D. Epoxy Bonding Adhesive (if required): ASTM C 881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces, of class suitable for application temperature and of grade to suit requirements, and as follows:

1. Provide material “type”, “grade” and “class” to suit project requirements.

E. Reglets (if required): Fabricate reglets of not less than 0.0217-inch- thick, galvanized steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.

F. Dovetail Anchor Slots (if required): Hot-dip galvanized steel sheet, not less than 0.0336 inch thick, with bent tab anchors. Temporarily fill or cover face opening of slots to prevent intrusion of concrete or debris.

2.10 REPAIR MATERIALS

A. Repair Underlayment (if required): Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of underlayment manufacturer recommended for substrate, conditions, and application.
3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by underlayment manufacturer.
4. Compressive Strength: Not less than 4100 psi at 28 days when tested according to ASTM C 109/C 109M.

B. Repair Overlayment (if required): Cement-based, polymer-modified, self-leveling product that can be applied in thicknesses from 1/8 inch and that can be feathered at edges to match adjacent floor elevations.

1. Cement Binder: ASTM C 150, portland cement or hydraulic or blended hydraulic cement as defined in ASTM C 219.
2. Primer: Product of topping manufacturer recommended for substrate, conditions, and application.

3. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch or coarse sand as recommended by topping manufacturer.
4. Compressive Strength: Not less than 5000 psi at 28 days when tested according to ASTM C 109/C 109M.

2.11 CONCRETE MIXTURES, GENERAL

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, according to ACI 301.
1. Use a qualified independent testing agency for preparing and reporting proposed mixture designs based on laboratory trial mixtures.

B. Limit water-soluble, chloride-ion content in hardened concrete to 0.06 percent by weight of cement.

C. Admixtures: Use admixtures according to manufacturer's written instructions.
1. Use water-reducing, high-range water-reducing or plasticizing admixture in concrete, as required, for placement and workability.
a. Do not use high-range water-reducing or super plasticizing admixtures in slabs.
2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, concrete for heavy-use industrial slabs and parking structure slabs, and concrete required to be watertight.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.
5. If more than one admixture is used in a concrete mix, assure that only compatible admixtures are used.
6. Do not use an air-entraining admixture or allow total air content to exceed 3 percent for concrete used in trowel-finished floors.

D. Maximum W/C Ratio: 0.50 and as required to achieve specified concrete strength.

2.12 CONCRETE MIXTURES FOR BUILDING ELEMENTS

A. Design mixes to provide concrete with the properties as indicated on the structural drawings.

2.13 FABRICATING REINFORCEMENT

A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

2.14 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M, and furnish batch ticket information. The time concrete is unloaded shall be recorded on each batch ticket.

1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
2. Batch ticket information shall include information necessary to calculate total mixing water and the amount of water added by the receiver.

B. Project-Site Mixing is not allowed.

PART 3 - EXECUTION

3.1 FORMWORK

A. Design, erect, shore, brace, and maintain formwork, according to ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads.

B. Construct formwork so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117.

C. Limit concrete surface irregularities, designated by ACI 117 and ACI 347R as abrupt or gradual, as follows:
1. Class A, 1/8 inch for smooth-formed finished surfaces.
2. Class C, 1/2 inch for rough-formed finished surfaces.

D. Construct forms tight enough to prevent loss of concrete mortar.

E. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Provide crush or wrecking plates where stripping may damage cast concrete surfaces. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
1. Install keyways, reglets, recesses, and the like, for easy removal.
2. Do not use rust-stained steel form-facing material.

F. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and slopes in finished concrete surfaces. Provide and secure units to support screed strips; use strike-off templates or compacting-type screeds.

G. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar. Locate temporary openings in forms at inconspicuous locations.

H. Chamfer exterior corners and edges of permanently exposed concrete, unless otherwise indicated.

I. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work. Determine sizes and locations from trades providing such items.

J. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

K. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

L. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 EMBEDDED ITEMS

A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.

1. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
2. Install and secure anchor rods prior to placing of concrete.
3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
4. Install dovetail anchor slots in concrete structures as indicated.
5. Provide additional rebar if required to secure rebar dowels in proper location.

B. Do not run any mechanical/electrical/plumbing pipes or conduit horizontally through concrete slabs, unless approved by the Engineer. These items shall also not bear continuously along grade beams and shall only cross perpendicular over top of grade beam in the concrete thickness below the slab at isolated locations.

C. Do not run any mechanical/electrical/plumbing pipes or conduit through concrete footings unless approved by the Engineer. All mechanical/electrical/plumbing items shall be routed to avoid conflicts with concrete construction.

3.3 REMOVING AND REUSING FORMS

A. General: Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete, if concrete is hard enough to not be damaged by form-removal operations and curing and protection operations are maintained.

B. Clean and repair surfaces of forms to be reused in the Work. Split, frayed, delaminated, or otherwise damaged form-facing material will not be acceptable for exposed surfaces. Apply new form-release agent.

C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints. Align and secure joints to avoid offsets. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.4 VAPOR RETARDERS

A. Plastic Vapor Retarders: Place, protect, and repair vapor retarders according to ASTM E 1643 and manufacturer's written instructions.

1. If vapor barrier is installed before the grade beam pour, seal vapor barrier to the inside face of grade beams along the entire vapor barrier perimeter using tape with a surface that creates a mechanical seal to freshly-placed grade beam concrete, per manufacturer's instructions.
2. If vapor barrier is installed after the grade beam pour, seal vapor barrier to the inside face of grade beams along the entire vapor barrier perimeter using tape and termination bar per manufacturer's instructions. Ensure the grade beam surface is clean and dry prior to adhering tape.
3. Lap joints 6 inches and seal with manufacturer's recommended tape.
4. Repair damaged areas by cutting patches of required vapor retarder, overlapping damaged area 6 inches and taping all four sides with approved tape.
5. Seal all penetrations (including pipes) per manufacturer's instructions.
6. The vapor retarder shall be sealed at the perimeter.

3.5 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for placing reinforcement.

1. Do not cut or puncture vapor retarder. Repair damage and reseal vapor retarder before placing concrete.

B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that would reduce bond to concrete.

C. Accurately position, support, and secure reinforcement against displacement. Locate and support reinforcement with bar supports to maintain minimum concrete cover. Do not tack weld crossing reinforcing bars.

1. Weld reinforcing bars according to AWS D1.4, where indicated.

D. Maximum spacing of bar supports for slab/mat reinforcement shall be 48 inches on center or less as required to secure reinforcement during construction operations.

E. Precast concrete blocks shall only be used to support reinforcement from the ground. Concrete blocks shall not be used for support of top reinforcement in concrete slabs or mats.

F. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.

G. Install bar reinforcement in longest practicable lengths on bar supports spaced to minimize sagging. Lap ends of bars as indicated on the structural contract drawings.

H. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces as specified on drawings or a minimum of two full mesh if not otherwise specified. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.6 JOINTS

A. General: Construct joints true to line with faces perpendicular to surface plane of concrete.

B. Construction Joints: Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.

1. Place joints perpendicular to main reinforcement. Do not continue reinforcement through sides of strip placements of floors and slabs (unless noted otherwise on drawings).
2. Form joints as indicated on drawings. Do not use metal keyways
3. Locate joints for beams, slabs, joists, and girders in the middle third of spans. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
4. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
5. Space vertical joints in walls as indicated. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
6. Use a bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces, where indicated on drawings.
7. Construction joints shall not be placed in any slab areas with floor coverings prone to cracking, unless written approval is provided the Architect. When construction joints are allowed in slab areas with floor coverings prone to cracking, the contractor shall assure that joints are properly considered in floor covering installation as required to prevent reflective cracking.

C. Doweled Joints (as indicated on drawings): Install dowel bars and support assemblies at joints where indicated.

3.7 WATERSTOPS

A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm. Install in longest lengths practicable. Support and protect exposed waterstops during progress of the Work. Field fabricate joints in waterstops according to manufacturer's written instructions.

B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated, according to manufacturer's written instructions, adhesive bonding, mechanically fastening, and firmly pressing into place. Install in longest lengths practicable.

1. Place at locations indicated on plans.
2. Place at concrete construction joints below site grade in order to avoid water intrusion into interior space.
    a. Place at wall to slab (or mat foundation) joints below site grade.
    b. Place at wall to wall joints below site grade.

3.8 CONCRETE PLACEMENT

A. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.

1. All embedded items, including anchor bolts, rebar dowels, etc., shall be set prior to placement of concrete.

2. For foundation elements, verify that water is not present in the excavation prior to placement of concrete.

B. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301 and in accordance with ASTM C94.

1. Determine initial slump prior to any water addition at Project site and before any significant concrete discharge.
2. Measure and record water added on Project site and resulting slump.
3. The amount of water added shall not exceed the amount allowed in the approved design mixture.
4. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
5. Do not exceed specified W/C ratio or slump per approved design mixture.
6. Do not add water to concrete delivered in equipment not acceptable for mixing.
7. Do not add water if more than 0.25 cubic yards of concrete has already been discharged from the mixer.
8. All water added shall be under the pressure and direction of flow required to achieve uniformity in concrete. Immediately after addition of water, the drum or blades of the truck mixer or agitator shall be turned an additional 30 revolutions or more if necessary, at mixing speed, until uniformity of concrete is achieved.

C. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete will be placed on concrete that has hardened enough to cause seams or planes of weakness. If a section cannot be placed continuously, provide construction joints as indicated. Deposit concrete to avoid segregation.

1. Deposit concrete in horizontal layers of depth to not exceed formwork design pressures and in a manner to avoid inclined construction joints.
2. Consolidate placed concrete with mechanical vibrating equipment according to ACI 301.
3. Do not use vibrators to transport concrete inside forms. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity. At each insertion, limit duration of vibration to time necessary to consolidate concrete and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

D. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

1. Consolidate concrete during placement operations so concrete is thoroughly worked around reinforcement and other embedded items and into corners.
2. Maintain reinforcement in position on chairs during concrete placement.
3. Screed slab surfaces with a straightedge and strike off to correct elevations.
4. Slope surfaces uniformly to drains where required.
5. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface. Do not further disturb slab surfaces before starting finishing operations.

E. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.

1. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
2. Do not place concrete when temperature is 36 deg F or below or if temperature is expected to reach 36 deg F (or below) within 12 hours of the anticipated time for completing a concrete pour.
3. Do not use frozen materials or materials containing ice or snow. Do not place concrete on frozen subgrade or on subgrade containing frozen materials.
4. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.

F. Hot-Weather Placement: Comply with ACI 301, ACI 305R, and as follows:

1. Maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

G. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

3.9 FINISHING FORMED SURFACES

A. Rough-Formed Finish: (For formed concrete surfaces not exposed to view) As-cast concrete texture imparted by form-facing material with tie holes and defects repaired and patched. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: (For formed concrete surfaces exposed to view) As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defects. Remove fins and other projections that exceed specified limits on formed-surface irregularities.

1. Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete.

C. Rubbed Finish: Unless noted otherwise, all exposed concrete surfaces shall receive a rubbed finish. Consult with Project Architect to determine the type of rubbed finish prior to pouring of concrete. Apply one of the following to smooth-formed finished as-cast concrete as indicated or directed by Architect:

1. Smooth-Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive until producing a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.
2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined

by trial patches so color of dry grout will match adjacent surfaces. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout. Mix one part portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces. Compress grout into voids by grinding surface. In a swirling motion, finish surface with a cork float.

D. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.10 FINISHING FLOORS AND SLABS

A. General:

1. Comply with ACI 302.1R recommendations for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

2. See architectural drawings for slab finish requirements or consult the Project Architect if finishes have not been supplied on the architectural drawings.

B. Scratch Finish: While still plastic, texture concrete surface that has been screeded and bull-floated or darbied. Use stiff brushes, brooms, or rakes to produce a profile amplitude of 1/4 inch in 1 direction.

1. Apply scratch finish to surfaces to receive concrete floor toppings and to receive mortar setting beds for bonded cementitious floor finishes.

C. Float Finish: Consolidate surface with power-driven floats or by hand floating if area is small or inaccessible to power driven floats. Restraighten, cut down high spots, and fill low spots. Repeat float passes and restraightening until surface is left with a uniform, smooth, granular texture.

1. Apply float finish to surfaces indicated, to receive trowel finish and to be covered with fluid-applied or sheet waterproofing, built-up or membrane roofing, or sand-bed terrazzo.

D. Trowel Finish: After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings.

1. Apply a trowel finish to surfaces indicated, exposed to view or to be covered with resilient flooring, carpet, ceramic or quarry tile set over a cleavage membrane, paint, or another thin-film-finish coating system.

a. Finish surfaces to the following tolerances, see structural drawings

E. Trowel and Fine-Broom Finish: Apply a first trowel finish to surfaces where ceramic or quarry tile is to be installed by either thickset or thin-set method. While concrete is still plastic, slightly scarify surface with a fine broom.

1. Comply with flatness and levelness tolerances for trowel finished floor surfaces.

F. Broom Finish: Apply a broom finish to exterior concrete platforms, steps, and ramps, and elsewhere as indicated.

1. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route. Coordinate required final finish with Architect before application.
2. After curing, lightly work surface with a steel wire brush or an abrasive stone and water to expose slip-resistive aggregate.

G. Slip-Resistive Finish: Before final floating, apply slip-resistive aggregate finish where indicated and to concrete stair treads, platforms, and ramps. Apply according to manufacturer's written instructions and as follows:

1. Uniformly spread dampened slip-resistive aggregate over surface in 1 or 2 applications. Tamp aggregate flush with surface, but do not force below surface.
2. After broadcasting and tamping, apply float finish.
3. After curing, lightly work surface with a steel wire brush or an abrasive stone and water to expose slip-resistive aggregate.

3.11 MISCELLANEOUS CONCRETE ITEMS

A. Filling In: Fill in holes and openings left in concrete structures, unless otherwise indicated, after work of other trades is in place. Mix, place, and cure concrete, as specified, to blend with in-place construction. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.12 CONCRETE PROTECTING AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and ACI 301 for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to unformed concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Formed Surfaces: Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces. If forms remain during curing period, moist cure after loosening forms. If removing forms before end of curing period, continue curing for the remainder of the curing period.

D. Unformed Surfaces: Begin curing immediately after finishing concrete. Cure unformed surfaces, including floors and slabs, concrete floor toppings, and other surfaces.

E. Cure concrete according to ACI 308.1, by one or a combination of the following methods:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
   a. Water.
   b. Continuous water-fog spray.

c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Cure for not less than seven days. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

   a. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive floor coverings.

   b. Moisture cure or use moisture-retaining covers to cure concrete surfaces to receive penetrating liquid floor treatments.

   c. Cure concrete surfaces to receive floor coverings with either a moisture-retaining cover or a curing compound that the manufacturer certifies will not interfere with bonding of floor covering used on Project..

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

   a. After curing period has elapsed, remove curing compound without damaging concrete surfaces by method recommended by curing compound manufacturer unless manufacturer certifies curing compound will not interfere with bonding of floor covering used on Project.

3.13 JOINT FILLING

A. Prepare, clean, and install joint filler according to manufacturer's written instructions.

1. Defer joint filling until concrete has aged at least one month(s). Do not fill joints until construction traffic has permanently ceased.

B. Remove dirt, debris, saw cuttings, curing compounds, and sealers from joints; leave contact faces of joint clean and dry.

C. Install semirigid joint filler full depth in saw-cut joints and at least 2 inches deep in formed joints, unless noted otherwise in documents. Overfill joint and trim joint filler flush with top of joint after hardening.

3.14 CONCRETE SURFACE REPAIRS

A. Defective Concrete: Repair and patch defective areas when approved by Architect. Remove and replace concrete that cannot be repaired and patched to Architect's approval.

B. Patching Mortar: Mix dry-pack patching mortar, consisting of one part portland cement to two and one-half parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

C. Repairing Formed Surfaces: Surface defects include color and texture irregularities, cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.

1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension in solid concrete, but not less than 1 inch in depth. Make edges of cuts perpendicular

to concrete surface. Clean, dampen with water, and brush-coat holes and voids with bonding agent. Fill and compact with patching mortar before bonding agent has dried. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.

2. Repair defects on surfaces exposed to view by blending white portland cement and standard portland cement so that, when dry, patching mortar will match surrounding color. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that affect concrete's durability and structural performance as determined by Architect.

D. Repairing Unformed Surfaces: Test unformed surfaces, such as floors and slabs, for finish and verify surface tolerances specified for each surface. Correct low and high areas. Test surfaces sloped to drain for trueness of slope and smoothness; use a sloped template.

1. Repair finished surfaces containing defects. Surface defects include spalls, popouts, honeycombs, rock pockets, crazing and cracks in excess of 0.01 inch wide or that penetrate to reinforcement or completely through unreinforced sections regardless of width, and other objectionable conditions.
2. After concrete has cured at least 14 days, correct high areas by grinding.
3. Correct localized low areas during or immediately after completing surface finishing operations by cutting out low areas and replacing with patching mortar. Finish repaired areas to blend into adjacent concrete.
4. Correct other low areas scheduled to receive floor coverings with a repair underlayment. Prepare, mix, and apply repair underlayment and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface. Feather edges to match adjacent floor elevations.
5. Correct other low areas scheduled to remain exposed with a repair topping. Cut out low areas to ensure a minimum repair topping depth of 1/4 inch to match adjacent floor elevations. Prepare, mix, and apply repair topping and primer according to manufacturer's written instructions to produce a smooth, uniform, plane, and level surface.
6. Repair defective areas, except random cracks and single holes 1 inch or less in diameter, by cutting out and replacing with fresh concrete. Remove defective areas with clean, square cuts and expose steel reinforcement with at least a 3/4-inch clearance all around. Dampen concrete surfaces in contact with patching concrete and apply bonding agent. Mix patching concrete of same materials and mixture as original concrete except without coarse aggregate. Place, compact, and finish to blend with adjacent finished concrete. Cure in same manner as adjacent concrete.
7. Repair random cracks and single holes 1 inch or less in diameter with patching mortar. Groove top of cracks and cut out holes to sound concrete and clean off dust, dirt, and loose particles. Dampen cleaned concrete surfaces and apply bonding agent. Place patching mortar before bonding agent has dried. Compact patching mortar and finish to match adjacent concrete. Keep patched area continuously moist for at least 72 hours.

E. Perform structural repairs of concrete, subject to Architect's approval, using epoxy adhesive and patching mortar.

F. Repair materials and installation not specified above may be used, subject to Architect's approval.

3.15 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage a special inspector and qualified testing and inspecting agency to perform field tests and inspections and prepare test reports. Provide special inspections in accordance with Chapter 17 of the International Building Code for concrete construction.

B. Inspections:

1. Steel reinforcement placement.
2. Headed bolts and studs.
3. Verification of use of required design mixture.
4. Mixing and delivery time for concrete.
    a. Record the time batched, time arrived, and the time unloaded for each batch of concrete.
5. Concrete placement, including conveying and depositing.
6. Curing procedures and maintenance of curing temperature.
7. Verification of concrete strength before removal of shores and forms from beams and slabs.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
    a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
2. Slump: ASTM C 143/C 143M; one test at point of discharge for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change or is questionable.
    a. Determine initial slump prior to any water addition to concrete at Project site and before any significant concrete discharge.
    b. Measure and record water added to concrete on Project site and resulting slump.
    c. Record amount of water indicated on batch ticket allowed to be added.
3. Air Content: ASTM C 231, pressure method, for normal-weight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when 80 deg F and above, and one test for each composite sample.
5. Unit Weight: ASTM C 567, fresh unit weight of structural lightweight concrete; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
6. Compression Test Specimens: ASTM C 31/C 31M.
    a. Cast and laboratory cure five standard cylinder specimens for each composite sample.
    b. Testing Agency shall be responsible for providing curing container for composite samples on Site as required for initial curing period and verifying that standard-cured composite samples are cured in accordance with ASTM C31/C31M. Testing Agency shall document method of initial curing.

c. The Contractor shall provide secured space, electrical power, and access for initial curing of test specimens.

7. Compressive-Strength Tests: ASTM C 39/C 39M.

a. Test one specimen at 7 days, three specimens at 28 days, and hold one specimen for testing at 56 days, if necessary.

b. A compressive-strength test shall be the average compressive strength from a set of three specimens obtained from same composite sample and tested at age indicated.

8. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

9. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work (illustrated via highlighting of elements on structural plans), design compressive strength at 28 days, concrete mixture proportions and materials, concrete unit weight, compressive breaking strength, and type of break for both 7- and 28-day tests. Deviations from the requirements of the Contract Documents shall be clearly identified and described on the reports.

10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

11. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42/C 42M or by other methods as directed by Architect.

12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

13. Correct deficiencies in the Work that test reports and inspections indicate does not comply with the Contract Documents.

D. Measure floor and slab flatness and levelness, per requirements on drawings, according to ASTM E 1155 within 72 hours of finishing.

END OF SECTION 03 30 00

SECTION 04 20 00 - UNIT MASONRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Allowances: Furnish face brick under the Face Brick Allowance specified in Section 01 20 00 "Price and Payment Procedures."

B. See Section 05 50 00 "Metal Fabrications" for furnishing steel lintels and shelf angles for unit masonry.

C. Submittals:

1. Samples for decorative concrete masonry units, concrete facing brick, face brick, hollow brick, and/or colored mortar.
2. Material Certificates: For each type of product indicated. Include statements of material properties indicating compliance with requirements.

D. Sample Panels: Construct a sample wall panel approximately 48 inches (1200 mm) long by 48 inches (1200 mm) high to demonstrate aesthetic effects and set quality standards for materials and execution.

PART 2 - PRODUCTS

2.1 UNIT MASONRY

A. Comply with TMS 602/ACI 530.1/ASCE 6.

2.2 MASONRY UNITS

A. Integral Water Repellent: Where indicated, concrete units shall be made with liquid polymeric, integral water repellant.

1. Euclid Chemical
2. Innovative Concrete Technology
3. SIKA USA

B. Concrete Masonry Units: ASTM C 90; Density Classification, Normal Weight.

1. Integral water repellent.
2. Special shapes for lintels, corners, jambs, sash, control joints, and other special conditions.
3. Square-edged units for outside corners unless otherwise indicated.

C. Decorative Concrete Masonry Units: ASTM C 90; Density Classification, Normal Weight.

1. Finish: Exposed faces with split-face finish.
2. Integral water repellent.
3. Special shapes for lintels, corners, jambs, sash, control joints, and other special conditions.

D. Concrete Facing Brick: ASTM C 1634; Density Classification, Normal Weight.

1. Finish: Exposed faces with split-face finish.
2. Integral water repellent.

E. Concrete Lintels: ASTM C 1623, precast units matching concrete masonry units and with reinforcing bars indicated or required to support loads indicated.

2.3 MORTAR AND GROUT

A. Mortar: ASTM C 270, proportion specification.

1. Use masonry cement mortar.
2. Do not use calcium chloride in mortar.
3. For masonry below grade or in contact with earth, use Type M.
4. For reinforced masonry, use Type M.
5. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions, and for other applications where another type is not indicated, use Type N.
6. Water-Repellent Additive: For mortar used with concrete masonry units made with integral water repellent, use product recommended by manufacturer of units.

B. Grout: ASTM C 476 with a slump of 8 to 11 inches (200 to 280 mm).

C. Refractory Mortar: Ground fireclay mortar or other refractory mortar that passes ASTM C 199 test and is acceptable to authorities having jurisdiction.

2.4 REINFORCEMENT, TIES, AND ANCHORS

A. Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60 (Grade 420).

B. Joint Reinforcement: ASTM A 951/A 951M.

1. Coating: Mill galvanized at interior walls and hot-dip galvanized at exterior walls.
2. Wire Size for Side Rods: 0.187-inch (4.76-mm) diameter.
3. Wire Size for Cross Rods: 0.187-inch (4.76-mm) diameter.
4. Wire Size for Veneer Ties: 0.187-inch (4.76-mm) diameter.
5. For single-wythe masonry, provide either ladder design or truss design.
6. For multiwythe masonry, provide ladder design with three side rods.

C. Corrugated-Metal Veneer Anchors: 7/8 inch (22 mm) wide and made from 0.030-inch- (0.76-mm-) thick steel sheet, galvanized after fabrication.

D. Veneer Anchors: Hot-dip galvanized steel, two-piece adjustable masonry veneer anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular

to plane of wall, for attachment over sheathing to studs, and acceptable to authorities having jurisdiction.

1. Hohmann & Barnard, Inc.
2. Masonpro – a White Cap Company
3. AnchorCo

2.5 EMBEDDED FLASHING MATERIALS

A. Sheet Metal Flashing: Stainless steel, 0.0156 inch (0.4 mm) thick.

2.6 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded strips complying with ASTM D 1056, Grade 2A1.

B. Preformed Control-Joint Gaskets: Designed to fit standard sash block and to maintain lateral stability in masonry wall; made from styrene-butadiene rubber or PVC.

C. Weep Holes: Cellular-plastic extrusion, full height and width of head joint.

D. Loose-Granular Perlite Insulation: ASTM C 549, Type II or IV.

E. Proprietary Acidic Masonry Cleaner: Product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units.

1. Prosoco
2. Laticrete

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Cut masonry units with saw. Install with cut surfaces and, where possible, cut edges concealed.

B. Mix units for exposed unit masonry from several pallets or cubes as they are placed to produce uniform blend of colors and textures.

C. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.

D. Stopping and Resuming Work: Step back units; do not tooth.

E. Fill cores in hollow concrete masonry units with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

F. Build nonload-bearing interior partitions full height and install compressible filler in joint between top of partition and underside of structure above.

G. Tool exposed joints slightly concave when thumbprint hard unless otherwise indicated.

H. Keep cavities clean of mortar droppings and other materials during construction.

I. Set firebox brick in full bed of refractory mortar with full head joints. Make joints approximately 1/8 inch (3 mm) wide and tool smooth.

J. Set clay flue liners in full beds of refractory mortar to comply with ASTM C 1283.

3.2 LINTELS

A. Install lintels where indicated.

B. Minimum bearing of 8 inches (200 mm) at each jamb unless otherwise indicated.

3.3 FLASHING AND WEEP HOLES

A. Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to the downward flow of water in the wall, and where indicated.

B. Place through-wall flashing on sloping bed of mortar and cover with mortar. Seal penetrations in flashing before covering with mortar.

1. Extend flashing 4 inches (100 mm) into masonry at each end and turn up 2 inches (50 mm) to form a pan.

C. Trim wicking material used in weep holes flush with outside face of wall after mortar has set.

3.4 PARGING

A. Parge masonry walls, where indicated, in two uniform coats with a steel-trowel finish. Form a wash at top of parging and a cove at bottom. Damp cure parging for at least 24 hours.

3.5 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections required by authorities having jurisdiction.

1. Inspections: Level B in TMS 402/ACI 530/ASCE 5.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.

3.6 CLEANING

A. Clean masonry as work progresses. Remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly cured, clean exposed masonry.

1. Wet wall surfaces with water before applying acidic cleaner, then remove cleaner promptly by rinsing thoroughly with clear water.
2. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

END OF SECTION 04 20 00

SECTION 05 40 00

COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Exterior non load-bearing wall framing (Delegated design. See Performance Requirements).
2. Exterior soffit framing (Delegated design. See Performance Requirements).

B. This specification section applies to all references in the contract documents to specification section 05 41 00 as well as section 05 40 00.

C. Related Sections include the following:

1. Division 5 Section "Metal Fabrications" for masonry shelf angles and connections.
2. Division 9 Section "Gypsum Board Assemblies" for interior non-load-bearing, metal-stud framing and ceiling-suspension assemblies.

1.3 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide cold-formed metal framing capable of withstanding design loads shown in plans and for resisting wind pressures determined from the wind speeds, exposure and risk category provided on plans.

1. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
   a. Exterior Non Load-Bearing Wall Framing: Horizontal deflection of 1/600 of the wall height for walls supporting brick/masonry veneer. Horizontal deflection of 1/360 of wall height for all other walls. Ultimate wind loads may be multiplied by 0.42 as allowed by IBC for purposes of wall deflection limits.
   b. The above deflection limits apply at all spans of the framing member, including cantilever spans and overhangs.
2. Design framing systems to provide for movement of framing members without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F.

3. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
   a. Upward and downward movement of 3/4 inch.
4. Design cold-formed framing systems to withstand any design loads and forces acting onto the cold-formed framing systems from any storefront/glass assemblies. Proper consideration of point loads from mullions shall be indicated in the design calculations.
5. Design cold-formed framing systems to accommodate connections of any storefront/glass assemblies.
6. All framing conditions which preclude the complete usage of cold-formed metal framing as indicated on the construction documents shall be identified prior to bidding or be resolved after bidding at no additional cost to the owner. Provide fixed connections to the structure where required for stability at cantilever conditions. Connections to structure shall be designed and provided by cold-formed metal framing supplier. Only provide fixed connections to structure when required for stability. Do not add kicker braces to reduce the span length of exterior wall studs. Do not attach to bottom flange of steel beams unless indicated on structural drawings.
7. Design all exterior soffit ceilings to resist positive and negative wind pressure in accordance with ASCE 7. Design soffit framing for dead weight of soffit and for a vertical construction live load of 10 psf minimum and a simultaneous 300 pound point load where erector can stand and otherwise load such framing.
8. Thickness of cold-formed metal framing shall be minimum required for anchorage at all louvers, doors, windows, and other wall openings. Coordinate with applicable supplier for minimum thickness of material for anchorage at framed wall openings.

B. Cold-Formed Steel Framing, General: Design according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions."
   1. Headers: Design according to AISI's "Standard for Cold-Formed Steel Framing - Header Design."
   2. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.

1.4 SUBMITTALS

A. Product Data: For each type of cold-formed metal framing product and accessory indicated.

B. Shop Drawings: Show layout, spacings, sizes, thicknesses, and types of cold-formed metal framing; fabrication; and fastening and anchorage details, including mechanical fasteners. Show reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work. Layout for metal stud wall framing shall include building elevations and/or wall plans indicating applicable wall sections in shop drawings. Provide wall sections for all unique exterior wall framing conditions around perimeter of building, including applicable locations where sections have not been provided in contract drawings. Contact Architect/Engineer prior to submittal of Shop Drawings if any additional information is required. For exterior canopies supported by cold-formed metal framing, the detailing of canopy connections to the cold-formed metal framing shall be clearly indicated on the shop drawings (general contractor shall coordinate loading and connection compatibility between canopy supplier and cold-formed metal stud supplier). For ladders supported by cold-formed metal framing, the detailing of ladder connections to the cold-formed metal framing shall be clearly

indicated on the shop drawings (general contractor shall coordinate loading and connection compatibility between ladder supplier and cold-formed metal stud supplier).

1. For cold-formed metal framing indicated to comply with design loads, include structural analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
2. Submit shop drawings, sealed and signed by a qualified Louisiana Registered Civil Engineer.
    a. Shop drawings shall be computer generated using two-dimensional drafting software (minimum).
    b. Shop drawings (and all other information necessary for field construction) shall be on completely separate sheets from structural analysis data (calculations).
3. Allow 21 days for review of cold-formed metal framing shop drawings, excluding delivery time to and from the contractor.
4. For shop drawings that are marked “Mark Corrections Noted”, provide Architect/Engineer with an electronic record set of the shop drawings for informational purposes once all revisions are made.
5. Do not submit shop drawings prior to review and approval of storefront/glass assembly submittals and pre-engineering metal building submittals.

C. Welding certificates (if any welding is required).

1.5 QUALITY ASSURANCE

A. Engineering Responsibility: Preparation of Shop Drawings, design calculations, and other structural data by a qualified professional engineer.

B. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of cold-formed metal framing that are similar to those indicated for this Project in material, design, and extent.

C. Testing Agency Qualifications: An independent testing agency, acceptable to authorities having jurisdiction, qualified according to ASTM E 329 to conduct the testing indicated.

D. Product Tests: Mill certificates or data from a qualified independent testing agency, or in-house testing with calibrated test equipment indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, ductility, and metallic-coating thickness.

E. Welding: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code--Steel," and AWS D1.3, "Structural Welding Code--Sheet Steel."

F. Fire-Test-Response Characteristics: Where indicated, provide cold-formed metal framing identical to that of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

G. AISI Specifications and Standards: Comply with AISI's "North American Specification for the Design of Cold-Formed Steel Structural Members" and its "Standard for Cold-Formed Steel Framing - General Provisions."

1. Comply with AISI's "Standard for Cold-Formed Steel Framing - Truss Design."
2. Comply with AISI's "Standard for Cold-Formed Steel Framing - Header Design."

H. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

I. The general contractor is responsible for coordinating with the cold-formed metal framing Design Engineer to ensure the metal framing is installed in accordance with the approved shop drawings. The Architect/Engineer is not responsible for verifying proper installation of cold-formed metal framing.

J. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association, the Steel Framing Industry Association, the Steel Framing Alliance, or the Steel Stud Manufacturers Association.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect cold-formed metal framing from corrosion, deformation, and other damage during delivery, storage, and handling.

B. Store cold-formed metal framing, protect with a waterproof covering, and ventilate to avoid condensation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide cold-formed metal framing, not including pre-engineered roof trusses, by one of the following:

1. AllSteel & Gypsum Products, Inc.
2. California Expanded Metal Products Company.
3. ClarkDietrich Building Systems
4. Consolidated Fabricators Corp.; Building Products Division.
5. Custom Stud, Inc.
6. Marino\Ware; a division of Ware Industries.
7. SCAFCO Corporation.
8. Steel Construction Systems.
9. Steeler, Inc.
10. United Metal Products, Inc.
11. Super Stud Building Products, Inc.

2.2 MATERIALS

A. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating weight as follows:

1. Grade: As required by structural performance.
2. Coating: G60, A60, AZ50, or GF30.

B. Steel Sheet for Vertical Deflection Clips: ASTM A 653/A 653M, structural steel, zinc coated, of grade and coating as follows:

1. Grade: As required by structural performance.
2. Coating: G90.

C. Screws: All screws used in the manufacture of steel roof trusses shall be exterior rated zinc coated self-drilling screws.

2.3 EXTERIOR NON-LOAD-BEARING WALL FRAMING

A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0428 inch.
2. Minimum Flange Width: 1-5/8 inches.
3. Section Properties: As required by design. See drawings for required depth of wall.

B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0428.
2. Minimum Flange Width: 1-1/4 inches.
3. Section Properties: As required by design. See drawings for required depth of wall.

C. Single Deflection Track: Manufacturer's single, deep-leg, U-shaped steel track; unpunched, with unstiffened flanges, of web depth to contain studs while allowing free vertical movement, with flanges designed to support horizontal and lateral loads and transfer them to the primary structure, and as follows:

1. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0428 inch.
2. Flange Width: 1 inch plus the design gap for 1-story structures.
3. Section Properties: As required by design. See drawings for required depth of wall.

D. Double Deflection Tracks: Manufacturer's double, deep-leg, U-shaped steel tracks, consisting of nested inner and outer tracks; unpunched, with unstiffened flanges.

1. Outer Track: Of web depth to allow free vertical movement of inner track, with flanges designed to support horizontal and lateral loads and transfer them to the primary structure, and as follows:
    a. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0428 inch.
    b. Minimum Flange Width: 1 inch plus twice the design gap.

c. Section Properties: As required by design. See drawings for required depth of wall.

2. Inner Track: Of web depth indicated, and as follows:

a. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0428 inch.

b. Minimum Flange Width: width equal to the sum of outer deflection track flange width plus 1 inch.

c. Section Properties: As required by design. See drawings for required depth of wall.

E. Drift Clips: Manufacturer's standard bypass or head clips, capable of isolating wall stud from upward and downward vertical displacement and lateral drift of primary structure.

2.4 EXTERIOR SOFFIT FRAMING

A. Steel Joists: Manufacturer's standard C-shaped steel sections, of web depths indicated, unpunched, with stiffened flanges, and as follows:

1. Minimum Base-Metal Thickness: As required by design but in no case less than 0.0329 inch.

2. Minimum Flange Width: 1-5/8 inches.

3. Minimum section: as required structurally or as specified on plans. See drawings for maximum allowed depth of element.

2.5 FRAMING ACCESSORIES

A. Fabricate steel-framing accessories from steel sheet, ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of same grade and coating weight used for framing members.

B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:

1. Supplementary framing.

2. Bracing, bridging, and solid blocking.

3. Web stiffeners.

4. Anchor clips.

5. End clips.

6. Foundation clips.

7. Gusset plates.

8. Stud kickers, knee braces, and girts.

9. Joist hangers and end closures.

10. Hole reinforcing plates.

11. Backer plates.

2.6 ANCHORS, CLIPS, AND FASTENERS

A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.

B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel headless, hooked bolts and carbon-steel nuts; and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.

C. Expansion Anchors: Fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 5 times design load, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

D. Power-Actuated Anchors: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with capability to sustain, without failure, a load equal to 10 times design load, as determined by testing per ASTM E 1190 conducted by a qualified independent testing agency.

E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping steel drill screws.

1. Head Type: Low-profile head beneath sheathing, manufacturer's standard elsewhere.

F. Welding Electrodes: Comply with AWS standards.

2.7 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: SSPC-Paint 20 or DOD-P-21035.

B. Cement Grout (if required): Portland cement, ASTM C 150, Type I; and clean, natural sand, ASTM C 404. Mix at ratio of 1 part cement to 2-1/2 parts sand, by volume, with minimum water required for placement and hydration.

C. Nonmetallic, Nonshrink Grout (if required): Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, and plasticizing and water-reducing agents, complying with ASTM C 1107, with fluid consistency and 30-minute working time.

D. Shims (if required): Load bearing, high-density multimonomer plastic, nonleaching.

E. Sealer Gaskets (if required): Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to match width of bottom track or rim track members.

2.8 FABRICATION

A. Fabricate cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.

1. Fabricate framing assemblies using jigs or templates.

2. Cut framing members by sawing or shearing; do not torch cut.
3. Fasten cold-formed metal framing members by welding, screw fastening, clinch fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
    a. Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    b. Locate mechanical fasteners and install according to Shop Drawings, with screw penetrating joined members by not less than three exposed screw threads.
4. Fasten other materials to cold-formed metal framing by welding, bolting, or screw fastening, according to Shop Drawings.

B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies to prevent damage or permanent distortion.

C. Fabrication Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:
1. Spacing: Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
2. Squareness: Fabricate each cold-formed metal framing assembly to a maximum out-of-square tolerance of 1/8 inch.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine supporting substrates and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Before sprayed fire-resistive materials are applied, attach continuous angles, supplementary framing, or tracks to structural members indicated to receive sprayed fire-resistive materials.

B. After applying sprayed fire-resistive materials, remove only as much of these materials as needed to complete installation of cold-formed framing without reducing thickness of fire-resistive materials below that are required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

C. Install load bearing shims or grout between the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations to ensure a uniform bearing surface on supporting concrete or masonry construction.

D. Install sealer gaskets to isolate the underside of wall bottom track or rim track and the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

A. Cold-formed metal framing may be shop or field fabricated for installation, or it may be field assembled.

B. Install cold-formed metal framing according to AISI's "Standard for Cold-Formed Steel Framing - General Provisions" and to manufacturer's written instructions unless more stringent requirements are indicated.

C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.

1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch.

D. Install cold-formed metal framing and accessories plumb, square, and true to line, and with connections securely fastened.

1. Cut framing members by sawing or shearing; do not torch cut.
2. Fasten cold-formed metal framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
    a. Comply with AWS D1.3 requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
    b. Locate mechanical fasteners and install according to Shop Drawings, and complying with requirements for spacing, edge distances, and screw penetration.

E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.

F. Install temporary bracing and supports to secure framing and support loads comparable in intensity to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.

G. Do not bridge building expansion and control joints with cold-formed metal framing. Independently frame both sides of joints.

H. Install insulation, specified in Division 7 Section "Building Insulation," in built-up exterior framing members, such as headers, sills, boxed joists, and multiple studs at openings, that are inaccessible on completion of framing work.

I. Fasten hole reinforcing plate over web penetrations that exceed size of manufacturer's standard punched openings.

J. Erection Tolerances: Install cold-formed metal framing level, plumb, and true to line to a maximum allowable tolerance variation of 1/8 inch in 10 feet and as follows:

1. Space individual framing members no more than plus or minus 1/8 inch from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

K. Exterior Soffit Framing: Provide horizontal and vertical members as required for support of all exterior soffit ceilings. Vertical members shall be provided at all structural steel beam and open web steel joist locations to uniformly distribute weight and loading of soffit ceiling to structure above. Vertical members may attach to underside of composite-concrete metal decks where required and the attachments shall made be such that a line load is imposed perpendicular to the deck span direction. Vertical members shall not attach directly to non-composite concrete metal floor decks and metal roof decks. All attachments to open web steel joists shall be made at each panel point location. All kickers shall only be provided between metal stud framing member where required for stability and without interfering with other work or requirements indicated by the drawings. Kicker brace configurations shall not induce torsion or twisting into floor beams or joists and attachments shall be made for direct transfer of horizontal to floor or roof deck, where required for stability.

3.4 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure as indicated.

B. Fasten both flanges of studs to top and bottom track, unless otherwise indicated. Space studs as follows:

1. Maximum Stud Spacing: 16 inches, or as indicated.

C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.

D. Isolate non-load-bearing steel framing from building structure to prevent transfer of vertical loads while providing lateral support.

1. At Contractor’s option, single or double deflection tracks may be used.
2. Install single deflection track and attach to building structure.
3. Install double deep-leg deflection tracks and anchor outer track to building structure.
4. Connect drift clips to cold formed metal framing and anchor to building structure.

E. Install horizontal bridging in wall studs, spaced in rows indicated on Shop Drawings but not more than 72 inches apart. Fasten at each stud intersection.

1. Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
2. Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
3. Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.

F. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, fasteners, and stud girts, to provide a complete and stable wall-framing system. Provide

miscellaneous framing and connections as required for support of all masonry veneer, cast stone bands, and other wall covering elements.

3.5 FIELD QUALITY CONTROL

A. Testing: Owner will engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports.

B. Field and shop welds will be subject to testing and inspecting.

C. Testing agency will report test results promptly and in writing to Contractor and Architect.

D. Remove and replace work where test results indicate that it does not comply with specified requirements.

E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.6 REPAIRS AND PROTECTION

A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed metal framing with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed metal framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 05 40 00

Section 09 67 23

RESINOUS FLOORING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This section includes the following:
   1. Resinous seamless flooring system as shown on the drawings and in schedules.
B. Related sections include the following:
   1. Cast-in-Place Concrete, section 03 30 00

1.3 SYSTEM DESCRIPTION

A. The work shall consist of preparation of the substrate, the furnishing and application of a cementitious urethane based self-leveling seamless flooring system with vinyl flake broadcast and a fast curing, uv stable polyurea topcoat.
B. The system shall have the color and texture as specified by the Owner with a nominal thickness of 1/4". It shall be applied to the prepared area(s) as defined in the plans strictly in accordance with the Manufacturer's recommendations.
C. Cove base (if required) to be applied where noted on plans and per manufacturers standard details unless otherwise noted.

1.4 SUBMITTALS

A. System Data: Latest edition of Manufacturer's literature including performance data.
B. Manufacturer's Material Safety Data Sheet (SDS) for each product being used.
C. Samples: A 6" x 2.5" sample of the proposed system. Color, texture, and thickness shall be representative of appearance of finished system.

1.5 QUALITY ASSURANCE

A. The Manufacturer shall have a minimum of 7 years' experience in the production, sales, and technical support of cementitious urethane, polyurethane industrial flooring and related materials.
B. The Applicator shall have been approved by the flooring system manufacturer in all phases of surface preparation and application of the specified system and have a minimum of 5 years relevant experience.
C. No requests for substitutions shall be considered that would change the generic type of the specified system.
D. System shall be in compliance with requirements of United States Department of Agriculture (USDA), Food, Drug Administration (FDA), and local Health Department.

E. A pre-installation conference shall be held between Applicator, General Contractor and the Owner to review and clarification of this specification, application procedure, quality control, inspection and acceptance criteria and application schedule.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Packing and Shipping
   1. All components of the system shall be delivered to the site in the Manufacturer's packaging, clearly identified with the product name and batch number.

B. Storage and Protection
   1. The Applicator shall be provided with a dry storage area for all components. The area shall be between 50° F and 90° F, dry, out of direct sunlight and in accordance with the Manufacturer's recommendations and relevant health and safety regulations.
   2. Copies of Material Safety Data Sheets (SDS) for all components shall be kept on site for review by the Engineer or other personnel.

C. Waste Disposal
   1. The Applicator shall be provided with adequate disposal facilities for non-hazardous waste generated during installation of the system.

1.7 PROJECT CONDITIONS

A. Site Requirements
   1. Application may proceed while air, material and substrate temperatures are between 50° F and 90° F providing the substrate temperature is above the dew point. Outside of this range, the Manufacturer shall be consulted.
   2. The relative humidity in the specific location of the application shall be less than 90 % and the surface temperature shall be at least 5^0F above the dew point.
   3. The Applicator shall be supplied with adequate lighting equal to the final lighting level during the preparation and installation of the system.

B. Conditions of new concrete to be coated with cementitious urethane material.
   1. Concrete shall be cured for a minimum of 7 days prior to the application of the coating system pending moisture tests.
   2. Concrete shall have a flat rubbed finish, float or light steel trowel finish (a hard steel trowel finish is neither necessary nor desirable).
   3. Sealers, release agents and curing membranes should not be used.
   4. Concrete surfaces on grade shall have been constructed with a vapor barrier to protect against the effects of vapor transmission and possible delamination of the system.

C. Safety Requirements
   1. The Owner shall be responsible for the removal of foodstuffs from the work area.
   2. Non-related personnel in the work area shall be kept to a minimum.

1.8 WARRANTY

A. Manufacturer shall warrant that its products are free from defects. Manufacturer shall provide a materials warranty to the Owner for a period of one year from date of final acceptance.

PART 2 – PRODUCTS

2.1 FLOORING

A. Basis of Design: FlowResin Flowfresh Ultra Flakes (self-leveling with vinyl flake broadcast), polyurea topcoat seamless flooring system.

1. System Materials:
   a. Topping: FlowResin Flowfresh MF Base A, Hardener B, pigment pack and Flowfresh MF Filler C. Flowfresh MF is supplied with Polygiene anti-microbial additive.
   b. The flakes shall be ¼" vinyl flakes in a blend of the owner's choice.
   c. Topcoat: FlowResin Flowseal Ultra or Flowseal Ultra EWT, Base A and Hardener B.
2. Patch Materials
   a. Shallow Fill and Patching: Use FlowResin Flowfresh MF or SR (up to ¼ inch).
   b. Deep Fill and Sloping Material (over ¼ inch): Use FlowResin Flowfresh HF.

2.2 MANUFACTURER

A. FlowResin
B. Dur-A-Flex, Inc
C. Stonhard
D. Manufacturer of Approved System shall be single source

2.3 PRODUCT REQUIREMENTS

A. Topping	Flowfresh MF
1. Percent Solids	100 %
2. VOC	<10 g/L
3. Bond Strength to Concrete ASTM D 4541	> 400 psi, failure in substrate
4. Compressive Strength, ASTM C 579	> 7,250 psi
5. Tensile Strength, ASTM C 307	1,740 psi
6. Flexural Strength, ASTM C 580	2,900 psi
7. Impact Resistance @ 125 mils, MIL D-3134, lbs No visible damage or deterioration	160 inch

B. Topcoat	Flowseal Ultra/Flowseal Ultra EWT
1. Percent Solids	100%
2. VOC	5 g/L
3. Elongation at Break, ASTM C 638	10%
4. Abrasion Resistance, ASTM D4060/CS17, 1000 Cycles	40mg weight loss

PART 3 – EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas and conditions, with Applicator present, for compliance with requirements for maximum moisture content, installation tolerances and other conditions affecting flooring performance.
   1. Verify that substrates and conditions are satisfactory for flooring installation and comply with requirements specified.

3.2 PREPARATION

A. General

1. All concrete surfaces shall be free of laitance, oil, grease, curing compounds, loose particles, friable matter, dirt, bituminous products and all other contaminants.
2. Moisture Testing: Perform moisture vapor emission (calcium chloride) test in accordance with ASTM F 1869-10.
   a. Perform three tests for the first 1,000 sq ft and then one test per subsequent 1,000 sq ft.
   b. Application will proceed only when the vapor/moisture emission rates from the slab does not exceed 12 lbs/1,000 sq ft/24 hrs.
   c. If the vapor drive exceeds 12 lbs/1,000 sq ft/24 hrs then the Owner and/or Engineer shall be notified and advised of additional cost for the possible installation of a vapor mitigation system that has been approved by the manufacturer or other means to lower the value to the acceptable limit.
3. Mechanical surface preparation
   a. Shot blast all surfaces to receive flooring system with a mobile steel shot, dust recycling machine (Blastrac or equal). All surface and embedded accumulations of paint, toppings hardened concrete layers, laitance, power trowel finishes and other similar surface characteristics shall be completely removed leaving a bare concrete surface having a minimum profile of CSP 4-5 as described by the International Concrete Repair Institute.
   b. Floor areas inaccessible to the mobile blast machines shall be mechanically abraded to the same degree of cleanliness, soundness and profile using diamond grinders, needle guns, bush hammers, or other suitable equipment.
   c. Where the perimeter of the substrate to be coated is not adjacent to a wall or curb, a minimum 1/8" key cut shall be made to properly seat the system, providing a smooth transition between areas. The detail cut shall also apply to drain perimeters and expansion joint edges.
   d. Cracks and joints (non-moving) greater than 1/8" wide are to be chiseled or chipped-out and repaired per manufacturer's recommendations.
4. At spalled or worn areas, mechanically remove loose or delaminated concrete to a sound concrete and patch per manufactures recommendations.

3.3 APPLICATION

A. General

1. The system shall be applied in three distinct steps as listed below:
   a. Substrate preparation
   b. Topping application with quartz aggregate broadcast.
   c. Topcoat application
2. Immediately prior to the application of any component of the system, the surface shall be dry and any remaining dust or loose particles shall be removed using a vacuum or clean, dry, oil- free compressed air.
3. The handling, mixing and addition of components shall be performed in a safe manner to achieve the desired results in accordance with the Manufacturer's recommendations.
4. The system shall follow the contour of the substrate unless pitching or other levelling work has been specified by the Architect.
5. A neat finish with well-defined boundaries and straight edges shall be provided by the applicator.

B. Topping

1. The topping shall be applied as a self-levelling system as specified by the Architect. The topping shall be applied in one lift with a nominal thickness of 100 mils.
2. The topping shall be comprised of four components, Base A, Hardener B, pigment pack and Filler C as supplied by the Manufacturer.
3. The pigment pack shall be added to the Base and thoroughly dispersed then the Hardener shall be added to the Base and pigment and be thoroughly mixed by suitably approved mechanical means. Flowfresh MF Filler C shall then be added to the mixing vessel and mixed in a manner to achieve a homogenous blend.
4. The topping shall be applied over horizontal surfaces using ½ inch "v" notched squeegee, trowels or other systems approved by the Manufacturer.
5. Immediately upon placing, the topping shall be rolled with a loop roller.
6. Flake aggregate shall be broadcast to excess into the wet material at the rate of 0.15 lbs/ sq ft.
7. Allow material to cure. Vacuum, sweep and/or blow to remove all loose aggregate.

C. Topcoat
1. The topcoat shall be mixed and applied per manufacturer recommended procedure.
2. The topcoat shall be comprised of 2 components, Base A and Hardener B as supplied by the manufacturer.
3. The topcoat will be applied at the rate of 175 sq ft per gallon.
4. The finish floor will have a nominal thickness of 1/4".

3.4 FIELD QUALITY CONTROL

A. Tests, Inspection
1. The following tests shall be conducted by the Applicator:
   a. Temperature
      1. Air, substrate temperatures and, if applicable, dew point.
   b. Coverage Rates
      1. Rates for all layers shall be monitored by checking quantity of material used against the area covered.

3.5 CLEANING AND PROTECTION

A. Cure flooring material in compliance with manufacturer's directions, taking care to prevent their contamination during stages of application and prior to completion of the curing process.

B. Remove masking. Perform detail cleaning at floor termination, to leave cleanable surface for subsequent work of other sections.

SECTION 09 77 30

SANITARY WALL FINISH SYSTEM

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Furnish all necessary materials, labor, and equipment required to install Epoxy/Urethane Wall Finish System.

1.02 RELATED WORK

A. All drawings and general provisions of contract including General and Special Conditions and Division I, excepting special Submittal and Quality Assurance provisions in this Section.

1. CAST-IN PLACE CONCRETE – Section 03 30 00
2. UNIT MASONRY – Section 04 20 00
3. RESINOUS FLOORING - Section 09 67 23

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications

1. Obtain Epoxy/Urethane Wall Finish System materials from a single manufacturer providing materials of the type specified in this section.

2. The Epoxy/Urethane Wall Finish System manufacturer shall provide detailed installation instructions to the applicator's crew.

B. Applicator Qualifications

Installation shall be performed by a contractor with skilled mechanics having not less than three years of satisfactory experience in the application of the type of system as specified in this section and shall be approved by the manufacturer of the Epoxy/Urethane Wall Finish System.

1.04 WARRANTY

The contractor shall furnish a standard maintenance guarantee of the Epoxy/Urethane Wall Finish System for a period of one year after installation. This maintenance guarantee includes loss of bond and top-side degradation due to normal use. Not included are bubbling or loss of adhesion due to moisture penetration through the substrate, damage due to Acts of God, vandals or other elements beyond the scope of protection of this system, or claims resulting from damage due to a change in use of area in which the Epoxy/Urethane Wall Finish System is installed. Also excluded are reflective cracks from substrate. In case of a warranty claim, the owner will notify the manufacture and applicator in writing within 30 days of the first appearance of any problems which are covered under this warranty and will provide free access to the area during normal working hours. Property protection is also the owner's responsibility. Remedy is limited to direct repair of the Epoxy/Urethane Wall Finish System.

1.05 SUBMITTALS

A. Product Data

Submit manufacturer's specifications on specific products of the Epoxy/Urethane Wall Finish System, including physical properties and performance properties. including all tests described in part 2.0IA in this Section and Material Safety Data Sheets. Manufacturer's standard color charts shall also be submitted and must afford the owner color selection from at least 12 standard colors.

B. The applicator shall submit a 6" x 6" system sample for verification purposes and finish texture approval.

C. The applicator shall submit a copy of the manufacturer's bill of material, tagged for this specific job, along with calculations, signed by an officer of the primary material supplier demonstrating that the quantity of material furnished for the project will achieve the specified coverage and mil thicknesses.

D. It is the intention of this Section to provide the products as named. Substitutions will be considered only when received by the Design Professional through a bidding Prime Contractor at least ten days prior to the date set of receipt of bids. Upon receipt of any such submission, the Design Professional will determine whether or not the proposed product is an approved equal. In the event the Design Professional determines that a proposed system is an approved equal, he will issue an addendum and notify all bidders at least 48 hours prior to receipt of bids. No substitutions will be considered after contract bid date.

1.06 MATERIAL DELIVERY, HANDLING, AND STORAGE

A. Primary system materials shall be delivered in the manufacturer's undamaged, unopened containers. Each container shall be clearly marked with the following:

1. Product name
2. Manufacturer's name
3. Component designation (A or B, etc.)
4. Ratio of component mixture

B. Provide equipment and personnel to handle the materials by methods which prevent damage.

C. The applicator shall promptly inspect all direct job-site deliveries to assure that quantities are correct and that materials comply with requirements and are not damaged.

D. The applicator shall be responsible for all materials shipped to the project jobsite.

E. Store materials in accordance with manufacturer's instructions, with seals and labels intact and legible. Maintain temperatures within the required range. Do not use materials which have been stored for a longer period of time than the manufacturer's maximum recommended shelf life.

1.07 JOB CONDITIONS

A. The applicator should exercise care during surface preparation and system application to protect surrounding substrates and surfaces, as well as in-place equipment. The applicator shall use his discretion as to the physical means and methods used for preparation and protection. Any costs incurred for resultant damage from negligence or inadequate protection shall be the sole responsibility of the applicator.

B. During material application, care should be exercised to comply with the temperature and humidity limitations of the materials used as defined by the manufacturer.

PART 2 - PRODUCTS

2.01 MATERIALS

A. System Overview

The system as formulated by Key Resin Company (Basis of Design) shall be 20 - 30 mil, epoxy and urethane wall finish system using Key #544 100% Solids Epoxy Wall Coating and Key #446 Low Odor Aliphatic Urethane Sealer. This system shall be applied over a clean, prepared substrate. The system is to be applied over appropriate primer and/or block filler as recommended by Key Resin Company for each type of substrate. The finished surface shall be dense, non-porous and have a light orange peel finish.

B. Epoxy Block Filler or Polymeric Block Filler

The block filler shall be epoxy or acrylic-modified cement (polymeric), one of the following options: Key #553 Epoxy Block Filler, Key #554 Epoxy Block Filler, or Key Polymeric Block Filler as manufactured by Key Resin Company, with performance properties as outlined in the product data sheets. Latex block fillers are not acceptable.

C. Epoxy Primer

The epoxy primer shall be Key #502 manufactured by Key Resin Company. Primer is not required if Epoxy Block Filler is to be used.

D. High Performance Epoxy Coating

The high-performance epoxy coating shall be Key #544 Epoxy Coating as manufactured by Key Resin Company, with performance properties as outlined in the product data sheet.

E. High Performance Aliphatic Urethane Sealer

The high-performance aliphatic urethane sealer shall be Key #446 Low Odor Urethane Sealer as manufactured by Key Resin Company, with performance properties as outlined in the product data sheet.

2.02 MANUFACTURER

A. FlowResin
B. Dur-A-Flex, Inc
C. Stonhard
D. Manufacturer of Approved System shall be single source

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

A. Prepare substrate to provide clean surface with open pores removing all contaminating or bond breaking substances including but not limited to dust, laitance, curing compounds, coatings, form release agents, sealers, oil, and

grease. All spalled or deteriorated areas should be mechanically removed by chipping hammers. Level any surface projections and mortar spatters by grinding, stoning, or scraping. Rake mortar joints clean.

B. Existing tile surfaces: All ceramic and quarry tile surfaces should be sounded to determine that they are tightly bonded to the substrate. Any areas which are not soundly bonded are to be removed and patched to surrounding surface area with compatible epoxy or polyacrylate mortar as recommended and supplied by the primary system manufacturer. Care should also be taken to allow the grouted joints and setting bed to dry out prior to installing Epoxy/Urethane Wall Finish System. Tile surfaces must be ground rough.

3.02 APPLICATION

A. General

Apply each component of the Epoxy/Urethane Wall Finish System in compliance with manufacturer's instructions including mixing and application methods, recoat windows, cure times and environmental restrictions.

B. Epoxy Block Filler or Polylmeric Block Filler (REQUIRED ONLY FOR CONCRETE BLOCK, TILE, OR CONCRETE IMPERFECTIONS).

Spread thoroughly blended Key #553, Key #554, or Key Polymeric block filler over the substrate with a flat steel trowel, roller, or brush at the rate required to fill irregularities and mortar joints and create a smooth sub-surface for epoxy wall system. Multiple coats may be required to achieve proper finish. Allow proper cure time between coats and before epoxy top coats.

C. Epoxy Primer

Prime all substrates which have not been coated with epoxy block filler at the rate of 200 - 250 square feet per gallon using Key #502 epoxy primer. Allow to cure. Dry wall substrates may require two coats of primer due to absorption.

E. Epoxy Base Coats

Apply thoroughly mixed 100% solids Key #544 epoxy coating at the rate of 160-200 square feet per gallon to primed or filled wall to yield 8-10 dry mils. Allow to cure 12 hours. Apply one or two additional coats at 160-200 sq. ft. per gallon per coat, following recommended recoat cure time.

F. Sanding

Sand any imperfections in the epoxy base coats such as runs and sags to achieve a smooth uniform base. Final topcoat will have a light orange peel finish and should match approved sample.

G. Urethane Sealer

Apply thoroughly mixed low odor Key #446 urethane sealer at the rate of 300-350 square feet per gallon to yield 2 dry mils. Urethane must be applied within the Key #544 recoat window unless the epoxy has been thoroughly sanded. Allow to cure.

H. Obtain Architect’s/Owner’s approval of the system just after completion of the final coat, prior to completion of curing.

3.03 CURING, CLEANING, AND PROTECTION

A. Cure all Epoxy/Urethane Wall Finish System materials in compliance with manufacturer's directions, taking care to prevent contamination during stages of the application and prior to completion of the curing process.

B. The General Contractor shall protect the finished Epoxy/Urethane Wall Finish System from the time that the sub-contractor completes the work.

END OF SECTION

SECTION 10 51 26

SOLID PLASTIC (HDPE) LOCKERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Standard-duty HDPE lockers.

B. HDPE Locker Benches

1.02 RELATED REQUIREMENTS

A. Section 033000 - Cast-in-Place Concrete: Concrete base construction.

B. Section 061000 - Rough Carpentry: Wood blocking and nailers.

1.03 REFERENCE STANDARDS

A. ADA Standards - 2010 ADA Standards for Accessible Design; 2010.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2024.

C. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Manufacturer's published data on locker construction, sizes, and accessories for each product used.

1. Care and maintenance information.

C. Shop Drawings: Indicate locker plan layout, including minimum required dimensions for installation, elevations of each locker type, numbering pattern.

D. Samples: Two, 3 by 3 inches (76 by 76 mm) in size, manufacture’s full range of available color and finish texture of locker material.

E. Manufacturer's Instructions: Indicate installation of each configuration indicated.

F. Manufacturer's qualification statement.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

1.06 DELIVERY, STORAGE, AND HANDLING

A. See Section 017419 - Construction Waste Management and Disposal for packaging waste requirements.

B. Protect locker finish and adjacent surfaces from damage.

C. Inspect lockers and benches upon receipt of delivery, and store in secure area until ready for assembly or installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. ASI Storage Solutions (Basis of Design – Traditional HDPE Collection)
2171 Liberty Hill Road -

Eastanollee, GA 30538.
706-827-2700. / www.asi-storage.com.

B. Scranton Products

C. Bradley Corp

D. Approved Equal

2.02 PERFORMANCE REQUIREMENTS

A. Accessibility: Comply with and [ICC A117.1] [ADA Standards, Accessibility Guidelines].

2.03 STANDARD-DUTY HDPE LOCKERS

A. L-1: Solid Plastic (HDPE) Double Stack Locker

1. Selectable Attributes:
   a. Locker Configuration: Two tier.
   b. Accessible Units: Lockers constructed to comply with referenced accessibility standards are indicated on drawings.
   c. Width: 12 inches (305 mm).
   d. Depth: 18 inches (457 mm).
   e. Enclosed Locker Height: 72 inches (182 cm).
   f. Interior Color: Manufacturer's standard, homogeneous, natural color throughout.
   g. Exterior Color: To be selected from manufacturer's full range of available colors and finish textures.
   h. Ventilation Type: Horizontal slotted door.
2. Innate Attributes:
   a. Locker Body Components: Made of solid plastic panels of the following type and minimum thicknesses:
      1) Solid, High-Density Polyethylene (HDPE): Tested in accordance with ASTM E84, Class B; homogeneous color throughout.
         (a) Smoke Developed Index: Not to exceed 450.
         (b) Flame Spread Index: Not to exceed 75.
   b. HDPE Component Thickness:
      1) Door and Door Frame: 1/2 inch (13 mm).
      2) Back: 3/8 inch (9.5 mm), minimum.
      3) Side: 3/8 inch (9.5 mm), minimum.
      4) Top: 3/8 inch (9.5 mm), minimum.
      5) Shelf: 3/8 inch (9.5 mm), minimum.
      6) Bottom: 3/8 inch (9.5 mm), minimum.
   c. Door Frame: Manufactured from single sheet of high-density polyethylene. Separate horizontal and vertical frame members will not be approved.
   d. Door Latching: Multipoint with a full height, spring loaded latch bar manufactured of 1/2-inch (13 mm) thick sheet of high-density polyethylene and securely mounted on interior face of locker door. Latch bar engages door frame at a minimum of two locations per door.
   e. Hinges: Full height, continuous type, 16 gauge, A-coated steel, black finish.
   f. Handle: One piece, recessed cup formed from black HDPE and securely mounted to interior of each door for smooth operation with integral latch bar. Capable of accepting various locking mechanisms.
   g. Latching Type: Positive, automatic-type locking device allowing locker door to be locked when open, then closed without unlocking.
   h. Locking Type: Hasps for combination locks provided by owner

i. Number Plates: Polished aluminum number plate with black numerals 3/8 inch (9.5 mm) high. Attached to door with rivets.
j. Accessories:
    1) Base: 6-inch (100 mm) high, 1-inch (25 mm) thick, color matching HDPE base.
    2) Top: 1/2-inch (13 mm) thick, continuous sloped hoods.
    3) Trim: Filler panels, Finished end panels and Recessed trim.
        (a) Material: 1/2-inch (13 mm) thick HDPE; color to match lockers.
k. Interior Equipment:
    1) Shelf: Included.
    2) Wall Hook: Two single-prong hooks.
    3) Ceiling Hook: Not included.
    4) Coat Rod: Not included.

B. L-2: Solid Plastic (HDPE) Double Stack Locker
1. Selectable Attributes:
    a. Locker Configuration: Two tier.
    b. Accessible Units: Lockers constructed to comply with referenced accessibility standards are indicated on drawings.
    c. Width: 12 inches (305 mm).
    d. Depth: 15 inches (457 mm).
    e. Enclosed Locker Height: 60 inches (182 cm).
    f. Interior Color: Manufacturer's standard, homogeneous, natural color throughout.
    g. Exterior Color: To be selected from manufacturer's full range of available colors and finish textures.
    h. Ventilation Type: Horizontal slotted door.
2. Innate Attributes:
    a. Locker Body Components: Made of solid plastic panels of the following type and minimum thicknesses:
        1) Solid, High-Density Polyethylene (HDPE): Tested in accordance with ASTM E84, Class B; homogeneous color throughout.
            (a) Smoke Developed Index: Not to exceed 450.
            (b) Flame Spread Index: Not to exceed 75.
    b. HDPE Component Thickness:
        1) Door and Door Frame: 1/2 inch (13 mm).
        2) Back: 3/8 inch (9.5 mm), minimum.
        3) Side: 3/8 inch (9.5 mm), minimum.
        4) Top: 3/8 inch (9.5 mm), minimum.
        5) Shelf: 3/8 inch (9.5 mm), minimum.
        6) Bottom: 3/8 inch (9.5 mm), minimum.
    c. Door Frame: Manufactured from single sheet of high-density polyethylene. Separate horizontal and vertical frame members will not be approved.
    d. Door Latching: Multipoint with a full height, spring loaded latch bar manufactured of 1/2-inch (13 mm) thick sheet of high-density polyethylene and securely mounted on interior face of locker door. Latch bar engages door frame at a minimum of two locations per door.
    e. Hinges: Full height, continuous type, 16 gauge, A-coated steel, black finish.
    f. Handle: One piece, recessed cup formed from black HDPE and securely mounted to interior of each door for smooth operation with integral latch bar. Capable of accepting various locking mechanisms.
    g. Latching Type: Positive, automatic-type locking device allowing locker door to be locked when open, then closed without unlocking.

h. Locking Type: Hasps for combination locks provided by owner
i. Number Plates: Polished aluminum number plate with black numerals 3/8 inch (9.5 mm) high. Attached to door with rivets.
j. Accessories:
1) Base: Not required.
2) Top: 1/2-inch (13 mm) thick, continuous sloped hoods.
3) Trim: Filler panels, Finished end panels and Recessed trim.
(a) Material: 1/2-inch (13 mm) thick HDPE; color to match lockers.

C. B-1 / B-2: Solid Plastic (HDPE) Benches
1. Attributes:
a. Bench Top: Manufacturer's standard one-piece units, with rounded corners and edges.
1) Size: Minimum 9-1/2 inches (241 mm) wide by 1-1/2 inches (38 mm thick), except provide 20- to 24-inch- (508- to 610-mm-) wide tops where accessible benches are indicated. Refer to drawings for dimensions.
2) Solid, High-Density Polyethylene (HDPE): Tested in accordance with ASTM E84, Class B; homogeneous color throughout.
(a) Smoke Developed Index: Not to exceed 450.
(b) Flame Spread Index: Not to exceed 75.
b. Fixed Base:
1) Fixed-Bench Pedestals: Manufacturer's standard supports, with predrilled fastener holes for attaching bench top and anchoring to floor, complete with fasteners and anchors, and as follows:\
(a) Wall Mount Bracket:
(1) 0.250 thick cold rolled steel with diagonal brace and rounded edges.
(b) Tubular Steel:
(1) 1-1/2-inch- (38-mm-) diameter steel tubing with 8-inch (203-mm) diameter steel flanges welded on both ends, with three holes in each flange for anchoring with exposed fasteners; with powder-coat finish.
(2) Height: 16-1/2 inches (413 mm).
(3) Color: As selected by Architect from manufacturer's full range.
(c) Stainless Steel:
(1) 2-inch- (50.8-mm-) diameter steel tubing, 0.060-inch- (1.58-mm-) thick stainless steel tube, shaped into trapezoidal form. Bottom 14 inches (355.6 mm) wide with four mounting holes.
(2) Finish: No. 4, brushed.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions and field dimensions meet manufacturer's requirements before starting work.

B. Verify prepared bases specified in Section 033000 are in correct position and configuration.

3.02 INSTALLATION

A. Install in accordance with manufacturer's written instructions.

B. Place and secure on prepared base.

C. Install lockers plumb and square.

D. Secure lockers with anchor devices to suit substrate materials.
1. Minimum Pullout Force: 100 lb (445 N)

E. Bolt adjoining locker units together to provide rigid installation.

F. Install and end panels, filler panels, sloped tops, miscellaneous panels, base trim.

3.03 ADJUSTING

A. Adjust moving parts for smooth operation.
   1. Adjust doors and latches to operate without binding.
   2. Verify latches are operating properly.
   3. Adjust built-in locks to prevent binding.

3.04 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Clean interior and exterior surfaces of lockers.

3.05 PROTECTION

A. Protect finishes until completion of project.

B. Touch up damaged finishes after Substantial Completion.

END OF SECTION 105126